CERTIFICATE

The TÜV CERT Certification Body for QM Systems of RWTÜV Systems GmbH

hereby certifies in accordance with TÜV CERT procedure that

ELITEGROUP COMPUTER SYSTEMS CO., LTD.
ECS MANUFACTURING (SHENZHEN) CO., LTD.
ELITE TECHNOLOGY (SHENZHEN) CO., LTD.

2F, No. 240, Sec. 1, Nei Hu Road, Taipei, Taiwan 114
No. 22, Alley 38, Lane 91, Sec. 1, Nei Hu Road, Taipei, Taiwan 114
No. 20 & No. 26, Free Trade Zone, Shatoujiao, Shenzhen City, GuangDong Province, China

has established and applies a quality system for

Design, Manufacturing and Sales of Mainboards, Personal Computers, Notebooks and Peripheral Cards

An audit was performed, Report No. **2.5-1585/2000**

Proof has been furnished that the requirements according to

ISO 9001 : 2000 / EN ISO 9001 : 2000 / JIS Q 9001 : 2000 / ANSI/ASQC Q9001 : 2000

are fulfilled. The certificate is valid until **27 January 2007**

Certificate Registration No. **04100 2000 1325**

The company has been certified since **2000**

TGA-ZM-30-96-00

Essen, 04.03.2004

RWTÜV

The TÜV CERT Certification Body for QM Systems of RWTÜV Systems GmbH

ISO14001 CERTIFICATE

Certificate No.: 061-04-E1-0065-R1-L

We hereby certify that

ECS MANUFACTURING (SHANZHEN) CO., LTD.

by reason of its

Environmental Management System

has been awarded this certificate for compliance with the standard

ISO14001:1996

The Environmental Management System applies in the following area:

ECS MANUFACTURING (SHANZHEN) CO., LTD. located at No. 20 & 26 (except 1F, 2F), Free Trade Zone, Shatuojiao, Shenzhen City, Guangdong Province, P. R. China. is engaged in manufacturing of Mother Board and Peripheral Card, and interrelated managerial activities.

Date of issue: 28th Sept. 2004

Date of expiry: 27th Sept. 2007

Signed by:

SHENZHEN SOUTHERN CERTIFICATION CO., LTD.

Preface

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Version 1.0C

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Federal Communications Commission (FCC)

This equipment has been tested and found to comply with the limits for a Class B digital device, pursuant to Part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation. This equipment generates, uses, and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to radio communications. However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures:

- Reorient or relocate the receiving antenna
- Increase the separation between the equipment and the receiver
- Connect the equipment onto an outlet on a circuit different from that to which the receiver is connected
- Consult the dealer or an experienced radio/TV technician for help

Shielded interconnect cables and a shielded AC power cable must be employed with this equipment to ensure compliance with the pertinent RF emission limits governing this device. Changes or modifications not expressly approved by the system's manufacturer could void the user's authority to operate the equipment.

Declaration of Conformity

This device complies with part 15 of the FCC rules. Operation is subject to the following conditions:

- This device may not cause harmful interference, and
- This device must accept any interference received, including interference that may cause undesired operation

Canadian Department of Communications

This class B digital apparatus meets all requirements of the Canadian Interference-causing Equipment Regulations.

Cet appareil numérique de la classe B respecte toutes les exigences du Réglement sur le matériel brouilieur du Canada.

About the Manual

The manual consists of the following:

Chapter 1

Introducing the Motherboard

Describes features of the motherboard.

Go to ⇨ page 1

Chapter 2

Installing the Motherboard

Describes installation of motherboard components.

Go to ⇨ page 7

Chapter 3

Using BIOS

Provides information on using the BIOS Setup Utility.

Go to ⇨ page 25

Chapter 4

Using the Motherboard Software

Describes the motherboard software

Go to ⇨ page 47

Chapter 5

Using the Motherboard Software

Describes the JMicron® RAID Configuration

Go to ⇨ page 53

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Chapter 1
Introducing the Motherboard

Introduction

Thank you for choosing the motherboard. This motherboard is a high performance, enhanced function motherboard designed to support the LGA775 socket Intel Core™2 Extreme/Core™ 2 Duo/Pentium D/Pentium 4/Celeron D processors for high-end business or personal desktop markets.

The motherboard incorporates the P965 Northbridge (NB) and ICH8 Southbridge (SB) chipsets. The Northbridge supports a Front Side Bus (FSB) frequency of 1066/800/533 MHz using a scalable FSB Vcc_CPU. The memory controller supports DDR2 memory DIMM frequencies of 800/667/533. It supports four DDR2 Sockets with up to maximum memory of 8 GB. DDR2 maximum memory bandwidth of 12.8 GB/s in dual-channel interleaved mode assuming DDR2 800. High resolution graphics via two PCI Express slot, intended for Graphics Interface, are fully compliant to the PCI Express Base Specification revision 1.1.

The ICH8 Southbridge supports three PCI slots which are PCI 2.3 compliant. In addition, two PCI Express x1 slots are supported, fully compliant to the PCI Express Base Specification, Revision 1.1. It implements two EHCI compliant interface that supports ten USB 2.0 ports. This motherboard complies with Intel High Definition Audio codec supporting up to 8-channel. Five SATA II ports, with maximum transder rate up to 3.0Gb/s each, are supported by the Southbridge and an integrated SATA host controller

The motherboard is equipped with advanced full set of I/O ports in the rear panel, including PS/2 mouse and keyboard connectors, COM1, LPT2, four USB ports, one optional LAN port and audio jacks for microphone, line-in and 8-ch line out.

Feature

Processor

The motherboard uses an LGA775 type of Intel Core™2 Extreme/ Core™2 Duo/ Pentium D/ Pentium 4/ Celeron D that carries the following features:

- Accommodates Intel Core™ 2 Extreme/ Core™ 2 Duo/ Pentium D/ Pentium 4/ Celeron D processors
- Supports a system bus (FSB) of 1066/800/533 MHz
- Supports “Hyper-Threading” technology CPU

“Hyper-Threading” technology enables the operating system into thinking it’s hooked up to two processors, allowing two threads to be run in parallel, both on separate “logical” processors within the same physical processor.

Chipset

The P965 Northbridge (NB) and ICH8 Southbridge (SB) chipsets are based on an innovative and scalable architecture with proven reliability and performance.

P965 (NB)

- Supports 36-bit host bus addressing, allowing the CPU to access the entire 64 GB of the GMCH’s memory address space.
- 2 GB/s point-to-point Direct Media Interface (DMI) to ICH8 (1 GB/s each direction)
- Supports one 16-lane PCI Express port intended for Graphics Attach, fully compatible to the PCI Express Base Specification revision 1.1
- Supports DDR2 memory DIMM frequenncies of 800/667/533 MHz.
- Supports 256-Mb, 512-Mb and 1-Gb technologies for x8 and x16 devices

ICH8 (SB)

- Enhanced DMA Controller, interrupt controller, and High Precision Event timer functions
- Compliant with PCI Express Base Specification, v1.1
- Compliant with PCI Rev 2.3 specificaiton at 33 MHz
- Compliant with Serial ATA II specification
- Integrated USB 2.0 Host Controller supporting up to ten USB 2.0 ports
- Supports Intel Active Management Technology
- Supports Intel Matrix Storage Technology

Memory

- Supports DDR2 800/667/533 DDR2 SDRAM with Dual-channel DDR2 architecture
- Accommodates four unbuffered DIMMs, with maximum memory size up to 8 GB

Onboard LAN (Optional)

This motherboard may support either of the following LAN chipset:

• Supports 100/10 Mb/s N-Way Auto negotiation operation • Half/Full duplex capability • Supports Wake-on-LAN function and remote wake-up
• Integrate 10/100/1000 transceiver • Supports PCI v2.3, 32-bit, 33/66MHz • Supports fully with IEEE802.3, IEEE802.3u and IEEE802.3ab

Audio

- 8 channels of DAC support 24/20/16-bit PCM format for 7.1 audio solution
- Supports 192K/96K/48K/44.1KHz DAC sample rate
- Power support: Digital: 3.3V; Analog: 3.5V~5.25V
- Meets Microsoft WHQL/WLP 2.x audio requirements
- Direct Sound 3D™ compatible
- Dolby® Digital Encoder output for consumer electronic application

Expansion Options

The motherboard comes with the following expansion options:

- Two PCI Express x16 slots (x16, x4) for Graphic Interface
- Two PCI-Express x1 slots
- Three 32-bit PCI v2.3 compliant slots
- One 40-pin IDE low profile header that support two IDE devices
- One floppy disk drive interface
- Five 7-pin SATA connectors

The motherboard supports UltraDMA bus mastering with transfer rates of 100/66 MB/s.

Integrated I/O

The motherboard has a full set of I/O ports and connectors:

- Two PS/2 ports for mouse and keyboard
- One serial port
- One parallel port
- Four USB 2.0/1.1 ports
- One LAN port (optional)
- Audio jacks for microphone in, line-in and 8-Ch High Definition Audio output

BIOS Firmware

This motherboard uses Award BIOS that enables users to configure many system features including the following:

- Power management
- Wake-up alarms
- CPU parameters
- CPU and memroy timing

The firmware can also be used to set parameters for different processor clock speeds.

Some hardware specifications and software items are subject to change with out prior notice.

Motherboard Components

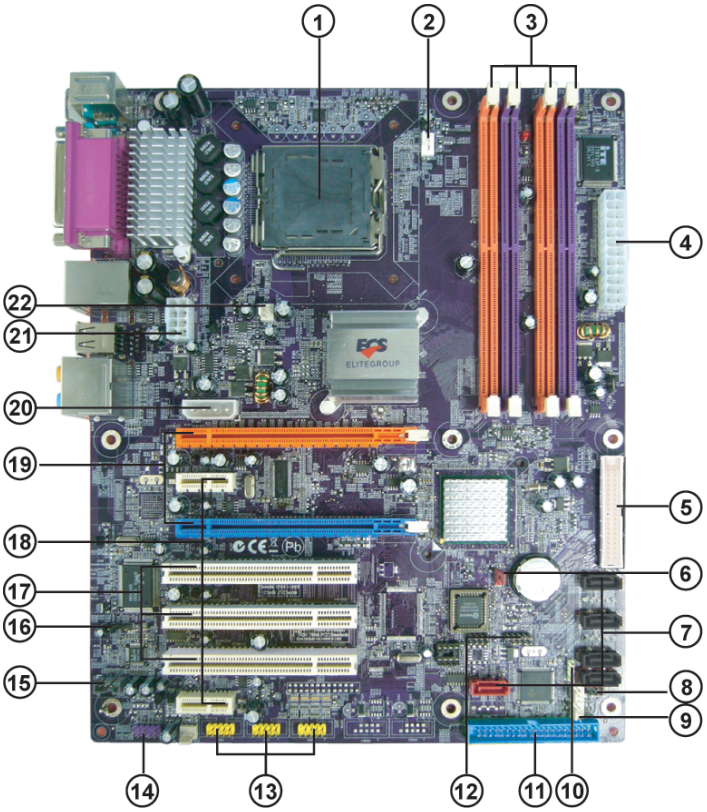


Table of Motherboard Components

LABEL	COMPONENT
1 CPU Socket	LGA775 socket for Intel Core™ 2 Duo/ Pentium D/Pentium 4/Celeron D CPUs
2 CPUFAN	CPU cooling fan connector
3 DIMM1~4	240-pin DDR2 SDRAM slots
4 ATX1	Standard 24-pin ATX power connector
5 FDD1	Floppy diskette drive connector
6 JP1	Clear CMOS jumper
7 SATA1/3/5/6/7	Serial ATA connectors
8 IR1	Infrared header
9 SYSFAN	System cooling fan connector
10 SPK1	Speaker header
11 IDEJ1	Primary IDE channel
12 PANEL1	Front panel switch/LED header
13 USB1-3	Front Panel USB headers
14 AUDIO1	Front panel audio header
15 CD_IN1	Analog audio input connector
16 SPDIOF1	SPDIF out header
17 PCI1~3	32-bit add-on card slots
18 PCIE2/PCIE4	PCI Express x1 slot
19 PCIE1/PCIE3	PCI Express slot for graphics interface
20 ATX4P1	Auxliary power connector for graphics card
21 ATX12V1	Auxiliary 8-pin power connector
22 NBFAN	Northbridge cooling fan connector

This concludes Chapter 1. The next chapter explains how to install the motherboard.

Memo

Chapter 2
Installing the Motherboard

Safety Precautions

- Follow these safety precautions when installing the motherboard
- Wear a grounding strap attached to a grounded device to avoid damage from static electricity
- Discharge static electricity by touching the metal case of a safely grounded object before working on the motherboard
- Leave components in the static-proof bags they came in
- Hold all circuit boards by the edges. Do not bend circuit boards

Choosing a Computer Case

There are many types of computer cases on the market. The motherboard complies with the specifications for the ATX system case. First, some features on the motherboard are implemented by cabling connectors on the motherboard to indicators and switches on the system case. Make sure that your case supports all the features required. Secondly, this motherboard supports one or two floppy diskette drives and two enhanced IDE drives. Make sure that your case has sufficient power and space for all drives that you intend to install.

Most cases have a choice of I/O templates in the rear panel. Make sure that the I/O template in the case matches the I/O ports installed on the rear edge of the motherboard.

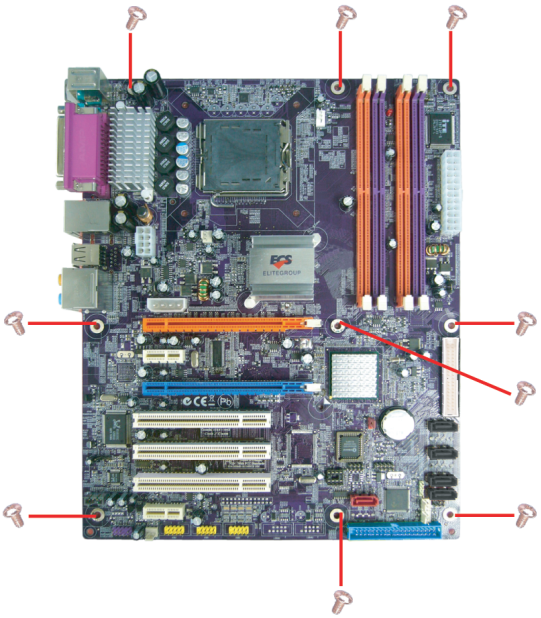
This motherboard carries a ATX form factor of 305 x 244 mm. Choose a case that accommodates this form factor.

Installing the Motherboard in a Case

Refer to the following illustration and instructions for installing the motherboard in a case.

Most system cases have mounting brackets installed in the case, which correspond the holes in the motherboard. Place the motherboard over the mounting brackets and secure the motherboard onto the mounting brackets with screws.

Ensure that your case has an I/O template that supports the I/O ports and expansion slots on your motherboard.



Do not over-tighten the screws as this can stress the motherboard.

Checking Jumper Settings

This section explains how to set jumpers for correct configuration of the motherboard.

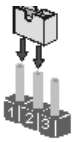
Setting Jumpers

Use the motherboard jumpers to set system configuration options. Jumpers with more than one pin are numbered. When setting the jumpers, ensure that the jumper caps are placed on the correct pins.

The illustrations show a 2-pin jumper. When the jumper cap is placed on both pins, the jumper is SHORT. If you remove the jumper cap, or place the jumper cap on just one pin, the jumper is OPEN.

SHORT OPEN

This illustration shows a 3-pin jumper. Pins 1 and 2 are SHORT



Checking Jumper Settings

The following illustration shows the location of the motherboard jumpers. Pin 1 is labeled.

Jumper Settings

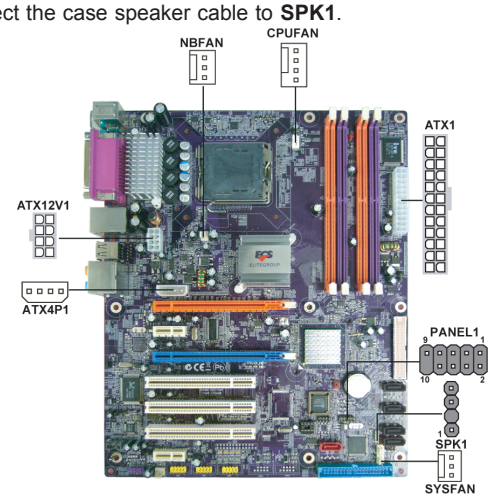
Jumper	Type	Description	Setting (default)	
JP1	3-pin	CLEAR CMOS	1-2: CMOS CLEAR 2-3: NORMAL Before clearing the CMOS, make sure to turn off the system.	1 JP1

To avoid the system unstability after clearing CMOS, we recommend users to enter the main BIOS setting page to "Load Optimal Defaults" and then "Save Changes and Exit".

Connecting Case Components

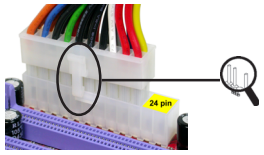
After you have installed the motherboard into a case, you can begin connecting the motherboard components. Refer to the following:

1 Connect the CPU cooling fan cable to **CPUFAN**.
2 Connect the system cooling fan connector to **SYSFAN**.
3 Connect the Northbridge cooling fan connector to **NBFAN**.
3 Connect the case switches and indicator LEDs to the **PANEL1**.
4 Connect the standard power supply connector to **ATX1**.
5 Connect the auxiliary case power supply connector to **ATX12V1**.
6 Connect the connector for graphics interface to **ATX4P1**.
7 Connect the case speaker cable to **SPK1**.



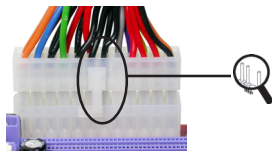
Connecting 20/24-pin power cable

Users please note that the 20-pin and 24-pin power cables can both be connected to the ATX1 connector. With the 20-pin power cable, just align the 20-pin power cable with the pin 1 of the ATX1 connector. However, using 20-pin power cable may cause the system to become unbootable or unstable because of insufficient electricity. A minimum power of 300W is recommended for a fully-configured system.



20-pin power cable

With ATX v1.x power supply, users please note that when installing 20-pin power cable, the latche of power cable clings to the left side of the ATX1 connector latch, just as the picture shows.



24-pin power cable

With ATX v2.x power supply, users please note that when installing 24-pin power cable, the latches of power cable clings to the right side of the ATX1 connector latch.

CPUFAN: CPU FAN Power Connector

Pin	Signal Name	Function
1	GND	System Ground
2	+12V	Power +12V
3	Sense	Sensor
4	Control	CPU FAN control

Users please note that the fan connector supports the CPU cooling fan of 1.1A~2.2A (26.4W max.) at +12V.

SYSFAN/NBFAN: System/Northbridge cooling FAN Connector

Pin	Signal Name	Function
1	GND	System Ground
2	+12V	Power +12V
3	Sense	Sensor

ATX12V1: ATX 12V Power Connector

Pin	Signal Name	Pin	Signal Name
1	Ground	5	+ 12V
2	Ground	6	+ 12V
3	Ground	7	+ 12V
4	Ground	8	+ 12V

ATX1: ATX 24-pin Power Connector

Pin	Signal Name	Pin	Signal Name
1	+3.3V	13	+3.3V
2	+3.3V	14	-12V
3	Ground	15	Ground
4	+5V	16	PS_ON
5	Ground	17	Ground
6	+5V	18	Ground
7	Ground	19	Ground
8	PWRGD	20	-5V
9	+5VSB	21	+5V
10	+12V	22	+5V
11	+12V	23	+5V
12	+3.3V	24	Ground

ATX4P1: Auxliary Power Connector for Graphics Interface

Pin	Signal Name
1	NC
2	Ground
3	Ground
4	+12V

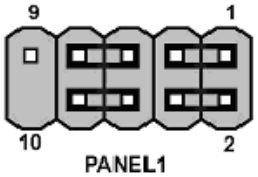
Make sure to connect a 4-pin ATX power cable to ATX4P1; otherwise, the system will be unstable.

SPK1: Internal speaker

Pin	Signal Name
1	VCC
2	Key
3	NC
4	Signal

Front Panel Connector

The front panel connector (PANEL1) provides a standard set of switch and LED connectors commonly found on ATX or micro-ATX cases. Refer to the table below for information:



PANEL1

Pin	Signal	Function	Pin	Signal	Function
1	HD_LED_P	Hard disk LED(+)	2	FP PWR/SLP	*MSG LED(+)
3	HD_LED_N	Hard disk LED(-)	4	FP PWR/SLP	*MSG LED(-)
5	RST_SW_N	Reset Switch(-)	6	PWR_SW_P	Power Switch(+)
7	RST_SW_P	Reset Switch(+)	8	PWR_SW_N	Power Switch(-)
9	RSVD	Reserved	10	Key	No pin

** MSG LED (dual color or single color)*

Hard Drive Activity LED

Connecting pins 1 and 3 to a front panel mounted LED provides visual indication that data is being read from or written to the hard drive. For the LED to function properly, an IDE drive should be connected to the onboard IDE interface. The LED will also show activity for devices connected to the SCSI (hard drive activity LED) connector.

Power/Sleep/Message waiting LED

Connecting pins 2 and 4 to a single or dual-color, front panel mounted LED provides power on/off, sleep, and message waiting indication.

Reset Switch

Supporting the reset function requires connecting pin 5 and 7 to a momentary-contact switch that is normally open. When the switch is closed, the board resets and runs POST.

Power Switch

Supporting the power on/off function requires connecting pins 6 and 8 to a momentary-contact switch that is normally open. The switch should maintain contact for at least 50 ms to signal the power supply to switch on or off. The time requirement is due to internal debounce circuitry. After receiving a power on/off signal, at least two seconds elapses before the power supply recognizes another on/off signal.

Installing Hardware

Installing the Processor

Caution: When installing a CPU heatsink and cooling fan make sure that you DO NOT scratch the motherboard or any of the surface-mount resistors with the clip of the cooling fan. If the clip of the cooling fan scrapes across the motherboard, you may cause serious damage to the motherboard or its components.

On most motherboards, there are small surface-mount resistors near the processor socket, which may be damaged if the cooling fan is carelessly installed.

Avoid using cooling fans with sharp edges on the fan casing and the clips. Also, install the cooling fan in a well-lit work area so that you can clearly see the motherboard and processor socket.

Before installing the Processor

This motherboard automatically determines the CPU clock frequency and system bus frequency for the processor. You may be able to change these settings by making changes to jumpers on the motherboard, or changing the settings in the system Setup Utility. We strongly recommend that you do not over-clock processors or other components to run faster than their rated speed.

Warning: Over-clocking components can adversely affect the reliability of the system and introduce errors into your system. Over-clocking can permanently damage the motherboard by generating excess heat in components that are run beyond the rated limits.

This motherboard has a LGA 775 socket. When choosing a processor, consider the performance requirements of the system. Performance is based on the processor design, the clock speed and system bus frequency of the processor, and the quantity of internal cache memory and external cache memory.

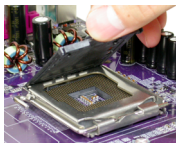
CPU Installation Procedure

The following illustration shows CPU installation components.

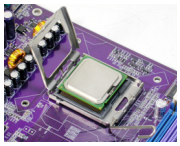
A. Read and follow the instructions shown on the sticker on the CPU cap.

B. Unload the cap
- Use thumb & forefinger to hold the lifting tab of the cap.
- Lift the cap up and remove the cap completely from the socket.

C. Open the load plate
- Use thumb & forefinger to hold the hook of the lever, pushing down and pulling aside unlock it.
- Lift up the lever.
- Use thumb to open the load plate. Be careful not to touch the contacts.



D. Install the CPU on the socket
- Orientate CPU package to the socket. Make sure you match triangle marker to pin 1 location.



E. Close the load plate
- Slightly push down the load plate onto the tongue side, and hook the lever.
- CPU is locked completely.

F. Apply thermal grease on top of the CPU.

G. Fasten the cooling fan supporting base onto the CPU socket on the motherboard.

H. Make sure the CPU fan is plugged to the CPU fan connector. Please refer to the CPU cooling fan user's manual for more detail installation procedure.

1. To achieve better airflow rates and heat dissipation, we suggest that you use a high quality fan with 3800 rpm at least. CPU fan and heatsink installation procedures may vary with the type of CPU fan/heatsink sup plied. The form and size of fan/heatsink may also vary.

2. DO NOT remove the CPU cap from the socket before installing a CPU.

3. Return Material Authorization (RMA) requests will be accepted only if the motherboard comes with thecap on the LGA775 socket.

Installing Memory Modules

This motherboard accomodates four memory modules. It can support four 240-pin DDR2 800/667/533 DDR2 SDRAM. The total memory support capacity is 8 GB.

DDR2 SDRAM memory module table

Memory module	Memory Bus
DDR2 533	*266 MHz*
DDR2 667	*333 MHz*
DDR2 800	*400 MHz*

You must install at least one module in any of the four slots. Each module can be installed up to 2 GB of memory; total support memory capacity is 8 GB.

Do not remove any memory module from its antistatic packaging until you are ready to install it on the motherboard. Handle the modules only by their edges. Do not touch the components or metal parts. Always wear a grounding strap when you handle the modules.

Installation Procedure

Refer to the following to install the memory modules.

1. This motherboard supports unbuffered DDR2 SDRAM .
2. Push the latches on each side of the DIMM slot down.
3. Align the memory module with the slot. The DIMM slots are keyed with notches and the DIMMs are keyed with cutouts so that they can only be installed correctly.
4. Check that the cutouts on the DIMM module edge connector match the notches in the DIMM slot.
5. Install the DIMM module into the slot and press it firmly down until it seats correctly. The slot latches are levered upwards and latch on to the edges of the DIMM.
6. Install any remaining DIMM modules.

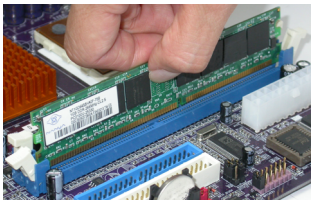


Table A: DDR2(memory module) QVL (Qualified Vendor List)

The following DDR2 800/667/533 memory modules have been tested and qualified for use with this motherboard.

Type	Size	Vendor	Module Name
DDR2 533	256MB	A-DATA	M2OHY2F3G3110A1B0Z
		Elixir	M2U25664TUH4A0F-37B
		Infineon	HYS64T32000HU-3.7-A
		Kingston	KVR533D2N4
		Ramaxel	RML 1040M28D5F-533
	512MB	AENEON	AET660UD00-370A98X
		Kingston	KVR533D2N4
		SAMSUNG	M378T6553BGO-CD5
	1GB	Apacer	ELPIDA E5108AB-5C-E
		Infineon	HYS64T128020HU-3.7-A
		KINGSTON	KVR533D2N4/1G
DDR2 667	512MB	A-DATA	M2OAD5Q3H3163J1C52
		ELPIDA	EBE52UC8AAFV-DF-E
		CORSAIR	VS512MB667D2
		KINGMAX	KLCC28F-A8MF5
		KINGSTON	KVR667D2N5/512
		NANYA	NT512T64U88A0BY-3C
		SyncMAX	S2R512M-08RCA-5300
		Transcend	SAMSUNG
		TwinMOS	8G-25JK5-EBT
	1GB	KINGSTON	KVR667D2N5/1G
DDR2 800	512MB	Apacer	Apacer
		Kingston	KVR800D2N5/512
		NANYA	NT512T64U88A0BY-25C
	1GB	Kingston	KVR800D2N5/1G
		NANYA	KVR800D2N5/1G

Installing a Hard Dish Drive/CD-ROM/SATA Hard Drive

This section describes how to install IDE devices such as a hard disk drive and a CD-ROM drive.

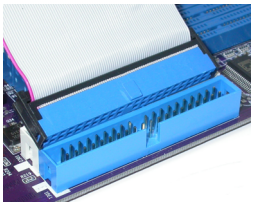
About IDE Device

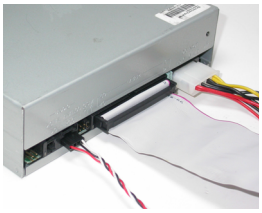
Your motherboard has one IDE channels interface. An IDE ribbon cable supporting two IDE devices is bundled with the motherboard.

You must orient the cable connector so that the pin1 (color) edge of the cable correspoinds to the pin 1 of the I/O port connector.

IDEJ1: IDE Connector

This motherboard supports seven high data transfer SATA ports with each runs up to 3.0 Gb/s. To get better system performance, we recommend users connect the CD-ROM to the IDE channel, and set up the hard dives on the SATA ports.





IDE devices enclose jumpers or switches used to set the IDE device as MASTER or SLAVE. Refer to the IDE device user's manual. Installing two IDE devices on one cable, ensure that one device is set to MASTER and the other device is set to SLAVE. The documentation of your IDE device explains how to do this.

About SATA Connectors

Your motherboard features five SATA connectors supporting a total of five drives. SATA , or Serial ATA (Advanced Technology Attachment) is the standard interface for the IDE hard drives which are currently used in most PCs. These connectors are well designed and will only fit in one orientation. Locate the SATA connectors on the motherboard and follow the illustration below to install the SATA hard drives.

Installing Serial ATA Hard Drives

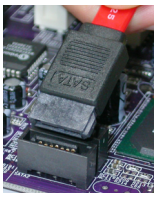
To install the Serial ATA (SATA) hard drives, use the SATA cable that supports the Serial ATA protocol. This SATA cable comes with an SATA power cable. You can connect either end of the SATA cable to the SATA hard drive or the connector on the motherboard.

SATA cable (optional)

SATA power cable (optional)

Refer to the illustration below for proper installation:

1 Attach either cable end to the connector on the motherboard.
2 Attach the other cable end to the SATA hard drive.
3 Attach the SATA power cable to the SATA hard drive and connect the other end to the power supply.



This motherboard does not support the "Hot-Plug" function.

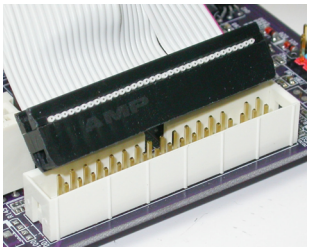
Installing a Floppy Diskette Drive

The motherboard has a floppy diskette drive (FDD1) interface and ships with a diskette drive ribbon cable that supports one or two floppy diskette drives. You can install a 5.25-inch drive and a 3.5-inch drive with various capacities. The floppy diskette drive cable has one type of connector for a 5.25-inch drive and another type of connector for a 3.5-inch drive.

You must orient the cable connector so that the pin 1 (color) edge of the cable corresponds to the pin 1 of the I/O port connector.

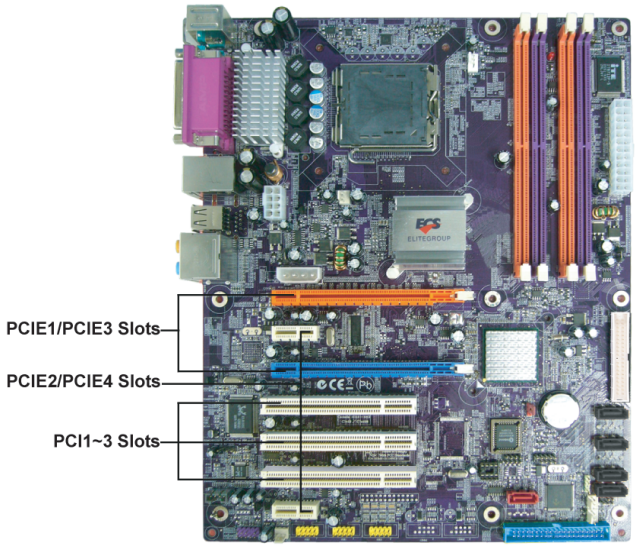
FDD1: Floppy Disk Connector

This connector supports the provided floppy drive ribbon cable. After connecting the single end to the onboard floppy connector, connect the remaining plugs on the other end to the floppy drives correspondingly.



Installing Add-on Cards

The slots on this motherboard are designed to hold expansion cards and connect them to the system bus. Expansion slots are a means of adding or enhancing the motherboard's features and capabilities. With these efficient facilities, you can increase the motherboard's capabilities by adding hardware that performs tasks that are not part of the basic system.



PCIE1/PCIE3 slots The PCI Express slots are fully compliant to the PCI Express Base Specification revision 1.1.

PCIE2/PCIE4 slots The PCI Express x1 slots are also fully compliant to the PCI Express Base Specification revision 1.1.

PCI 1~3 Slots This motherboard is equipped with three standard PCI slots. PCI stands for Peripheral Component Interconnect and is a bus standard for expansion cards, which for the most part, is a supplement of the older ISA bus standard. The PCI slots on this board are PCI v2.3 compliant.

1. Before installing an add-on card, check the documentation for the card carefully. If the card is not Plug and Play, you may have to manually configure the card before installation.

2. PCIE2/PCIE4 slots will be disabled when PCIE3 slot is installed.

Follow these instructions to install an add-on card:

1 Open the chassis and then remove the slot bracket from the case where you will be installing the expansion cards.
2 Install your graphics card in the proper slot by pressing the card firmly into the slot.
3 Drive in the screw to secure the slot bracket of the expansion card.
4 Replace your computer's chassis cover.
5 Power on the computer, if necessary, set up BIOS utility of expansion card from BIOS.
6 Install related driver to complete the installation.

1. The two PCIE slots for graphics cards run in two modes. With only one PCI Express Graphics card, install it onto PCIE1 slot by default. Having two PCI Express Graphics cards at hand, set them up onto PCIE1 and PCIE3 slots simultaneously.

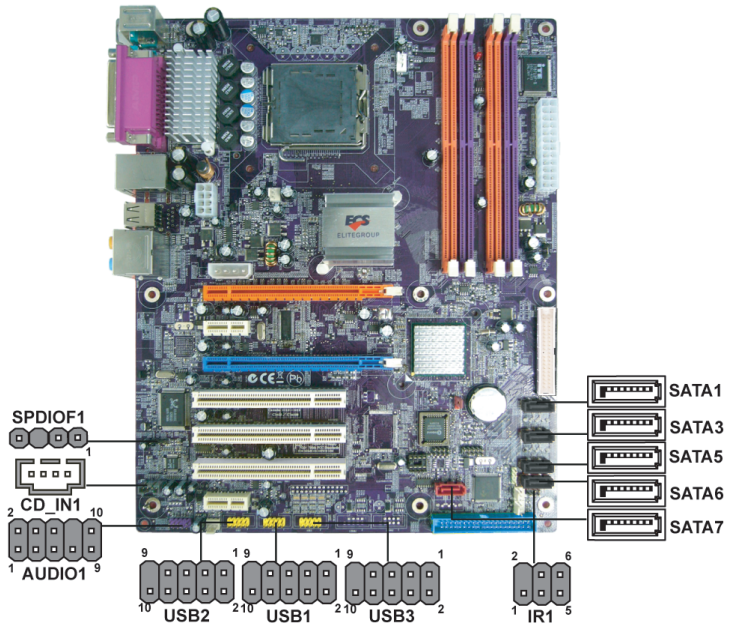
2. The Scalable D.G.E. supports a four-monitor configuration when PCIE1 and PCIE3 slots are working simultaneously.

3. Please note that the graphics card driver supports Windows 2000/XP only.

4. Make sure to connect a 4-pin ATX power cable to the ATX4P1; otherwise, the system will be unstable.

Connecting Optional Devices

Refer to the following for information on connecting the motherboard's optional devices:



AUDIO1: Front Panel Audio header

This header allows the user to install auxiliary front-oriented microphone and line-out ports for easier access.

Pin	Signal Name	Pin	Signal Name
1	PORT 1L	2	GND
3	PORT 1R	4	PRESENCE#
5	PORT 2R	6	Sense1_return
7	SENSE_SEND	8	KEY
9	PORT 2L	10	Sense2_return

If your front panel cable is separated, please connect it to pin1 and pin3 or pin5 and pin7 to activate the MIC function.

USB1/2/3: Front Panel USB headers

The motherboard has four USB ports installed on the rear edge I/O port array. Additionally, some computer cases have USB ports at the front of the case. If you have this kind of case, use auxiliary USB connector to connect the front-mounted ports to the motherboard.

Pin	Signal Name	Function
1	USBPWR	Front Panel USB Power
2	USBPWR	Front Panel USB Power
3	USB_FP_P0-	USB Port 0 Negative Signal
4	USB_FP_P1-	USB Port 1 Negative Signal
5	USB_FP_P0+	USB Port 0 Positive Signal
6	USB_FP_P1+	USB Port 1 Positive Signal
7	GND	Ground
8	GND	Ground
9	Key	No pin
10	USB_FP_OC0	Overcurrent signal

IR1: Infrared header

The motherboard supports an Infrared (IR1) data port. Infrared ports allow the wireless exchange of information between your computer and similarly equipped devices such as printers, laptops, Personal Digital Assistants (PDAs), and other computers.

Pin	Signal Name	Pin	Signal Name
1	NC	2	KEY
3	VCC5	4	Ground
5	IRTX	6	IRRX

CD_IN1: Analog Audio Input connector

Pin	Signal Name	Function
1	CD_Right	CD In right channel
2	GND	Ground
3	GND	Ground
4	CD_Left	CD In left channel

SATA1/3/5/6/7: Serial ATA connectors

These connectors are use to support the new Serial ATA devices for the highest date transfer rates (3.0 Gb/s), simpler disk drive cabling and easier PC assembly. It eliminates limitations of the current Parallel ATA interface. But maintains register compatibility and software compatibility with Parallel ATA.

Pin	Signal Name	Pin	Signal Name
1	Ground	2	TX+
3	TX-	4	Ground
5	RX-	6	RX+
7	Ground	-	-

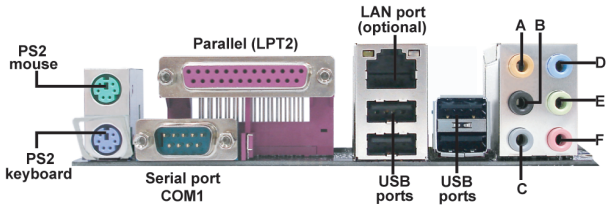
SPDIOF1: SPDIF out header

This is an optional header that provides an S/PDIF (Sony/Philips Digital Interface) output to digital multimedia device through optical fiber or coxial connector.

Pin	Signal Name	Function
1	SPDIF	SPDIF digital output
2	+5VA	5V analog power
3	Key	No pin
4	GND	Ground

Connecting I/O Devices (Optional)

The backplane of the motherboard has the following I/O ports:



PS2 Mouse Use the upper PS/2 port to connect a PS/2 pointing device.

PS2 Keyboard Use the lower PS/2 port to connect a PS/2 keyboard.

Parallel Port (LPT2) Use LPT2 to connect printers or other parallel communications devices.

Serial Port (COM1) Use the COM port to connect serial devices such as mice or fax/modems. COM1 is identified by the system as COM1/3.

LAN Port (optional) Connect an RJ-45 jack to the LAN port to connect your computer to the Network.

USB Ports Use the USB ports to connect USB devices.

Audio Ports Use the audio jacks to connect audio devices. The D port is for stereo line-in signal, while the F port is for microphone in signal. This motherboard supports 8-channel audio devices that correspond to the A, B, C, and E port respectively. In addition, all of the 3 ports, B, C, and E provide users with both right & left channels individually. Users please refer to the following note for specific port function definition.

A: Center & Woofer	D: Line-in
B: Back Surround	E: Front Out
C: Side Surround	F: Mic_in Rear

The above port definition can be changed to audio input or audio output by changing the driver utility setting.

This concludes Chapter 2. The next chapter covers the BIOS.

Chapter 3
Using BIOS

About the Setup Utility

The computer uses the latest Award BIOS with support for Windows Plug and Play. The CMOS chip on the motherboard contains the ROM setup instructions for configuring the motherboard BIOS.

The BIOS (Basic Input and Output System) Setup Utility displays the system's configuration status and provides you with options to set system parameters. The parameters are stored in battery-backed-up CMOS RAM that saves this information when the power is turned off. When the system is turned back on, the system is configured with the values you stored in CMOS.

The BIOS Setup Utility enables you to configure:

- Hard drives, diskette drives and peripherals
- Video display type and display options
- Password protection from unauthorized use
- Power Management features

The settings made in the Setup Utility affect how the computer performs. Before using the Setup Utility, ensure that you understand the Setup Utility options.

This chapter provides explanations for Setup Utility options.

The Standard Configuration

A standard configuration has already been set in the Setup Utility. However, we recommend that you read this chapter in case you need to make any changes in the future.

This Setup Utility should be used:

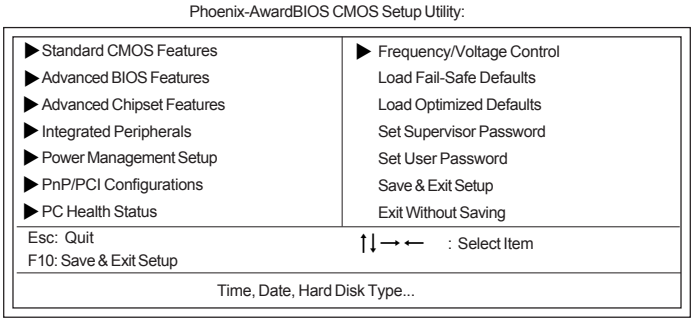
- when changing the system configuration
- when a configuration error is detected and you are prompted to make changes to the Setup Utility
- when trying to resolve IRQ conflicts
- when making changes to the Power Management configuration
- when changing the password or making other changes to the Security Setup

Entering the Setup Utility

When you power on the system, BIOS enters the Power-On Self Test (POST) routines. POST is a series of built-in diagnostics performed by the BIOS. After the POST routines are completed, the following message appears:

Press DEL to enter SETUP

Pressing the delete key accesses the BIOS Setup Utility:



BIOS Navigation Keys

The BIOS navigation keys are listed below:

KEY	FUNCTION
ESC	Exits the current menu
←↑↓→	Scrolls through the items on a menu
+/-/PU/PD	Modifies the selected field's values
F10	Saves the current configuration and exits setup
F1	Displays a screen that describes all key functions
F5	Loads previously saved values to CMOS
F6	Loads a minimum configuration for troubleshooting
F7	Loads an optimum set of values for peak performance

Updating the BIOS

You can download and install updated BIOS for this motherboard from the manufacturer's Web site. New BIOS provides support for new peripherals, improvements in performance, or fixes for known bugs. Install new BIOS as follows:

1 If your motherboard has a BIOS protection jumper, change the setting to allow BIOS flashing.
2 If your motherboard has an item called Firmware Write Protect in Advanced BIOS features, disable it. (Firmware Write Protect prevents BIOS from being overwritten.
3 Create a bootable system disk. (Refer to Windows online help for information on creating a bootable system disk.)
4 Download the Flash Utility and new BIOS file from the manufacturer's Web site. Copy these files to the system diskette you created in Step 3.
5 Turn off your computer and insert the system diskette in your computer's diskette drive. (You might need to run the Setup Utility and change the boot priority items on the Advanced BIOS Features Setup page, to force your computer to boot from the floppy diskette drive first.)
6 At the A:\ prompt, type the Flash Utility program name and press <Enter>.
7 Type the filename of the new BIOS in the "File Name to Program" text box. Follow the onscreen directions to update the motherboard BIOS.
8 When the installation is complete, remove the floppy diskette from the diskette drive and restart your computer. If your motherboard has a Flash BIOS jumper, reset the jumper to protect the newly installed BIOS from being overwritten.

Using BIOS

When you start the Setup Utility, the main menu appears. The main menu of the Setup Utility displays a list of the options that are available. A highlight indicates which option is currently selected. Use the cursor arrow keys to move the highlight to other options. When an option is highlighted, execute the option by pressing <Enter>.

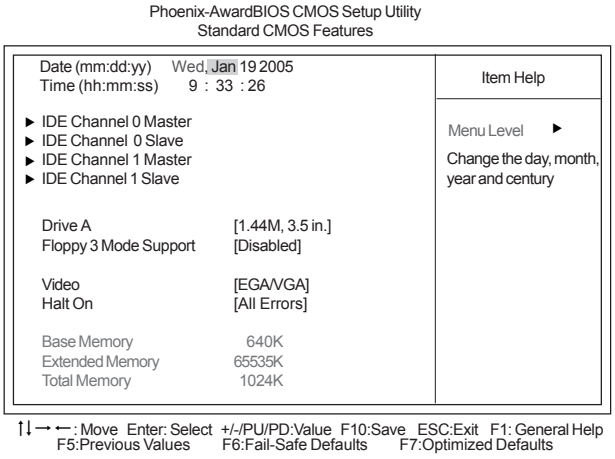
Some options lead to pop-up dialog boxes that prompt you to verify that you wish to execute that option. Other options lead to dialog boxes that prompt you for information.

Some options (marked with a triangle ▶) lead to submenus that enable you to change the values for the option. Use the cursor arrow keys to scroll through the items in the submenu.

In this manual, default values are enclosed in parenthesis. Submenu items are denoted by a triangle ▶.

Standard CMOS Features

This option displays basic information about your system.



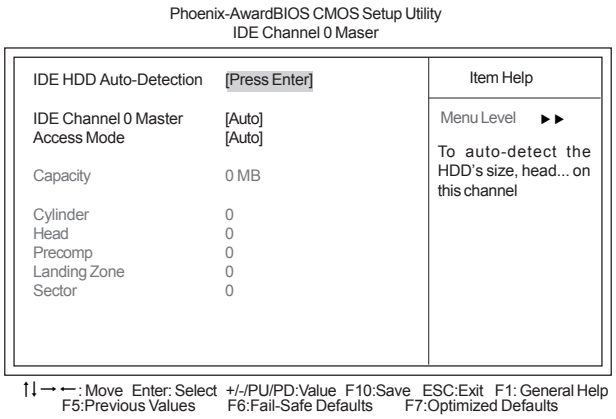
Date and Time

The Date and Time items show the current date and time on the computer. If you are running a Windows OS, these items are automatically updated whenever you make changes to the Windows Date and Time Properties utility.

►IDE Devices (None)

Your computer has two IDE channels (Primary and Secondary) and each channel can be installed with one or two devices (Master and Slave). Use these items to configure each device on the IDE channel.

This motherboard features four SATA connectors supporting four SATA drives. SATA refers to Serial ATA (Advanced Technology Attachment), the standard interface for the IDE hard drives which are currently used in most PCs.



IDE HDD Auto-Detection

Press <Enter> while this item is highlighted to prompt the Setup Utility to automatically detect and configure an IDE device on the IDE channel.

If you are setting up a new hard disk drive that supports LBA mode, more than one line will appear in the parameter box. Choose the line that lists LBA for an LBA drive.

IDE Channel 0/1 Master/Slave IDE/Extended IDE Drives (Auto)

Leave this item at Auto to enable the system to automatically detect and configure IDE devices on the channel. If it fails to find a device, change the value to Manual and then manually configure the drive by entering the characteristics of the drive in the items described below. Please noted that if you choose IDE Channel 2/3 Master, the item may change to Extended IDE Drive.

Refer to your drive's documentation or look on the drive casing if you need to obtain this information. If no device is installed, change the value to None.

Before attempting to configure a hard disk drive, ensure that you have the configuration information supplied by the manufacturer of your hard drive. Incorrect settings can result in your system not recognizing the installed hard disk.

Access Mode (Auto)

This item defines ways that can be used to access IDE hard disks such as LBA (Large Block Addressing). Leave this value at Auto and the system will automatically decide the fastest way to access the hard disk drive. If you choose IDE Channel 2/3 Master, the item only have Large and Auto.

Press <Esc> to return to the Standard CMOS Features page.

Drive A (1.44M, 3.5 in.)

The item defines the characteristics of any diskette drive attached to the system. You can connect one or two diskette drives.

Floppy 3 Mode Support (Disabled)

Floppy 3 mode refers to a 3.5-inch diskette with a capacity of 1.2 MB. Floppy 3 mode is sometimes used in Japan.

Video (EGA/VGA)

This item defines the video mode of the system. This motherboard has a built-in VGA graphics system; you must leave this item at the default value.

Halt On (All Errors)

This item defines the operation of the system POST (Power On Self Test) routine. You can use this item to select which types of errors in the POST are sufficient to halt the system.

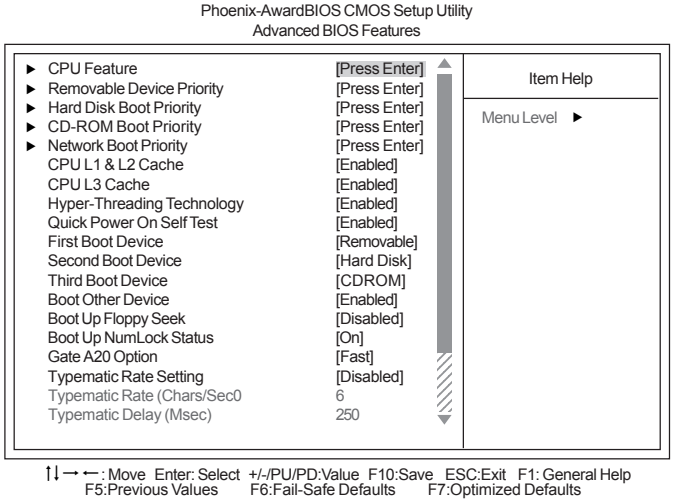
Base Memory, Extended Memory, and Total Memory

These items are automatically detected by the system at start up time. These are display-only fields. You cannot make changes to these fields.

Press <Esc> to return to AwardBIOS CMOS Setup Utility page.

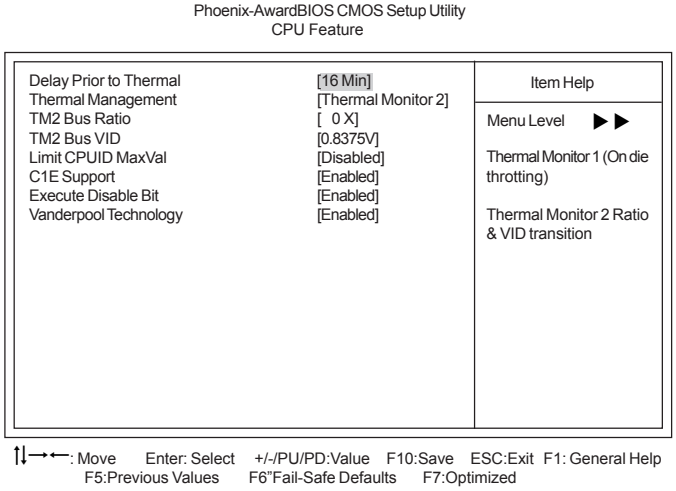
Advanced BIOS Features

This option defines advanced information about your system.



▶CPU Feature (Press Enter)

Users please note that this function is only available for Prescott CPUs. Scroll to this item and press <Enter> to view the following screen:



DelayPrior to Thermal (16 Min)

Enables you to set the delay time before the CPU enters auto thermal mode.

Thermal Management (Thermal Monitor 1)

This item displays CPU's temperature and enables you to set a safe temperature to Prescott CPU.

TM2 Bus Ratio (0X)

This item represents the frequency (bus ratio) of the throttled performance state that will be initiated when the on-die sensor goes from not hot to hot).

TM2 Bus VID (0.8375V)

This item represents the voltage of the throttled performance state that will be initiated when the on-die sensor goes from not hot to hot.

Limit CPUID MaxVal (Disabled)

This item can support Prescott CPUs for old OS. Users please note that under NT 4.0, it must be set "Enabled", while under WinXP, it must be set "Disabled".

C1E Support (Enabled)

This item CIE (Enhanced Halt State) support allows users to decrease the bus ratio that reduces the consumption of CPU electricity and power. This item shows only if the CPU supports.

Execute Disable Bit (Enabled)

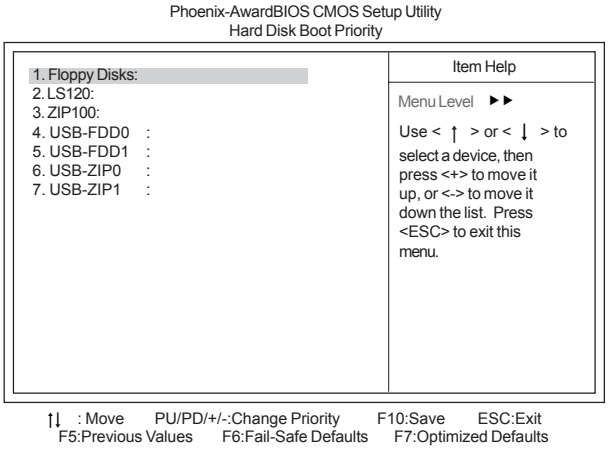
This item is a security feature that helps you protect your CPU and operating system against malicious software executing code. This item is available when CPU supports the feature.

Intel Vanderpool Technology (Enabled)

When enabled, a VMM can utilize the additional hardware capabilities provided by Vandor pool Technology.

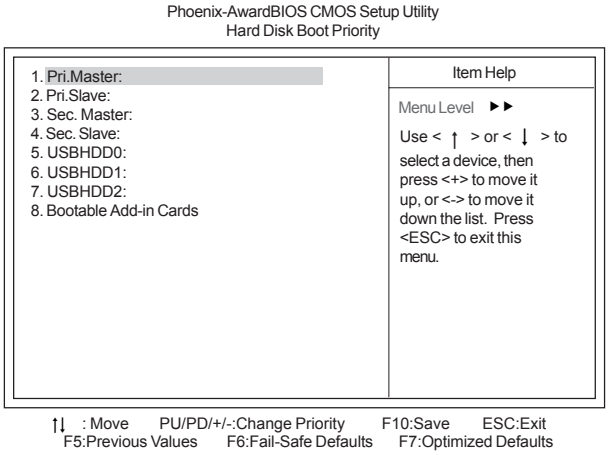
► Removable Device Priority (Press Enter)

Scroll to this item and press <Enter> to view the following screen:



▸ Hard Disk Boot Priority (Press Enter)

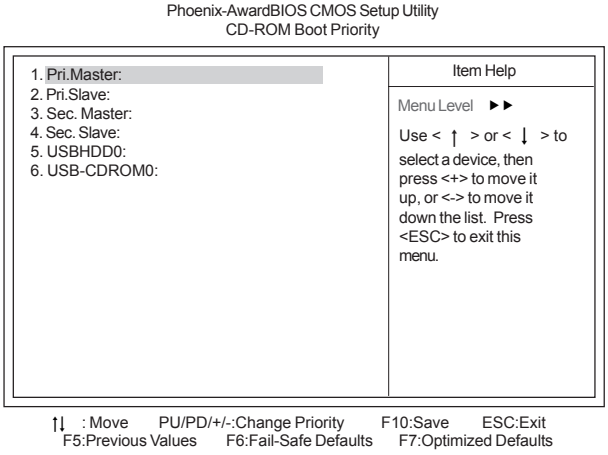
Scroll to this item and press <Enter> to view the following screen:



Press <Esc> to return to the Advanced BIOS Features page.

▸ CD-ROM Boot Priority (Press Enter)

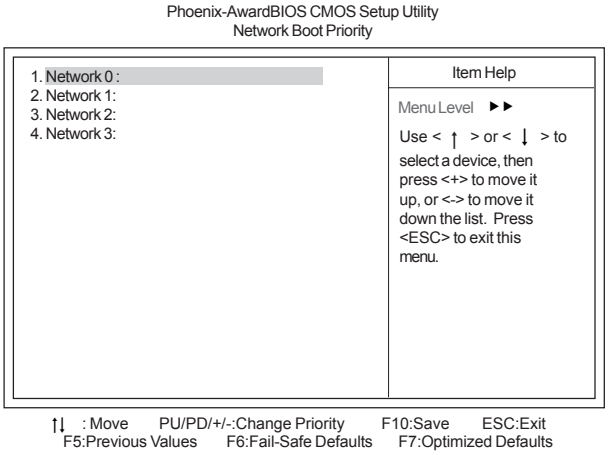
Scroll to this item and press <Enter> to view the following screen:



Press <Esc> to return to the Advanced BIOS Features page.

▶ Network Boot Priority (Press Enter)

Scroll to this item and press <Enter> to view the following screen:



Press <Esc> to return to the Advanced BIOS Features page.

CPU L1&L2 Cache (Enabled)

All processors that can be installed in this mainboard use internal level 1 (L1) and external level 2 (L2) cache memory to improve performance. Leave this item at the default value for better performance.

CPU L3 Cache (Enabled)

This item is only available when processors support L3. Some high-end processors support L3. If the CPU do support L3, you may set this item to enable or disable. Leave this item at the default value for better performance.

Hyper-Threading Technology (Enabled)

This item is only available when the chipset supports Hyper-Threading and you are using a Hyper-Threading CPU.

Quick Power On Self Test (Enabled)

Enable this item to shorten the power on testing (POST) and have your system start up faster. You might like to enable this item after you are confident that your system hardware is operating smoothly.

First/Second/Third Boot Device (Removable/Hard Disk/CDROM)

Use these three items to select the priority and order of the devices that your system searches for an operating system at start-up time. The First boot device “CD-ROM” item is for SATA1 or SATA3/5/6 port (Provide by ICH8, black SATA connector) used if you install SATA CD-ROM in one of SATA1/3/5/6 port. If you installed SATA CD-ROM in SATA7 or PATA CD-ROM in IDEJ1 port that provide from J-Micron JMB361 (Red SATA connector is SATA7), please choose “CD-ROM name” from first boot device list in Advance BIOS Features -> First boot device

For exp, If you installed one AXX DVD-RW in SATA7 port, please choose AXX DVD-RW from first boot device list to boot from AXX DVD-RW. If you insert AXX DVD-RW in SATA1 port, please choose “CD-ROM” item from first boot device list to boot from AXX DVD-RW.

Boot Other Device (Enabled)

When enabled, the system searches all other possible locations for an operating system if it fails to find one in the devices specified under the First, Second, and Third boot devices.

Boot Up Floppy Seek (Disabled)

If this item is enabled, it checks the size of the floppy disk drives at start-up time. You don’t need to enable this item unless you have a legacy diskette drive with 360K capacity.

Boot Up NumLock Status (On)

This item defines if the keyboard Num Lock key is active when your system is started.

Gate A20 Option (Fast)

This item defines how the system handles legacy software that was written for an earlier generation of processors. Leave this item at the default value.

Typematic Rate Setting (Disabled)

If this item is enabled, you can use the following two items to set the typematic rate and the typematic delay settings for your keyboard.

- **Typematic Rate (Chars/Sec)**: Use this item to define how many characters per second are generated by a held-down key.
- **Typematic Delay (Msec):** Use this item to define how many milliseconds must elapse before a held-down key begins generating repeat characters.

Security Option (Setup)

If you have installed password protection, this item defines if the password is required at system start up, or if it is only required when a user tries to enter the Setup Utility.

APIC Mode (Enabled)

This item allows you to enable or disable the APIC (Advanced Programmable Interrupt Controller) mode. APIC provides symmetric multi-processing (SMP) for systems, allowing support for up to 60 processors.

OS Select For DRAM > 64 MB (Non-OS2)

This item is only required if you have installed more than 64 MB of memory andyou are running the OS/2 operating system. Otherwise, leave this item at thedefault.

Report No FDD For WIN 95 (Yes)

Set this item to the default if your are running a system with no floppy drive and using Windows 95; this ensures compatibility with the Windown 95 logo certification.

Full Screen LOGO Show (Enabled)

This item enables or disables the full screen logo show.

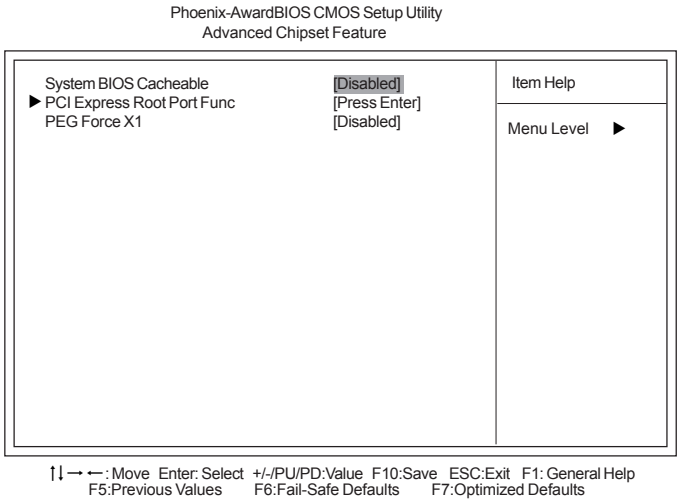
Small Logo (EPA) Show (Disabled)

This item enables or disables the display of the EPA logo during boot.

Press <Esc> to return to the Advanced BIOS Features page.

Advanced Chipset Features

These items define critical timing parameters of the motherboard. You should leave the items on this page at their default values unless you are very familiar with the technical specifications of your system hardware. If you change the values incorrectly, you may introduce fatal errors or recurring instability into your system.

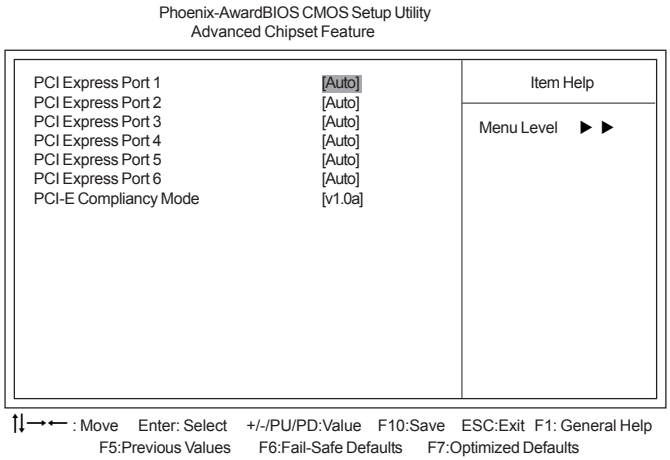


System BIOS Cacheable (Disabled)

This item allows the system to be cached in memory for faster execution. Enable this item for better performance.

▶PCI Express Root Port Func (Press Enter)

Scroll to this item and press <Enter> to view the following screen:

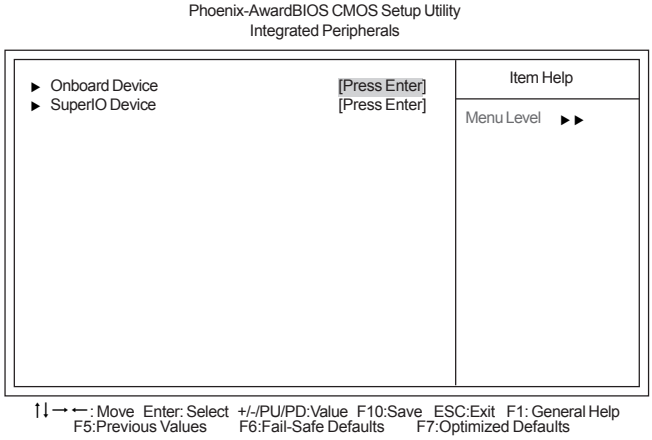


PEG Force X1 (Disabled)
This item is used to select PCI Express X1 forcedly.

Press <Esc> to return to the Advanced BIOS Features page.

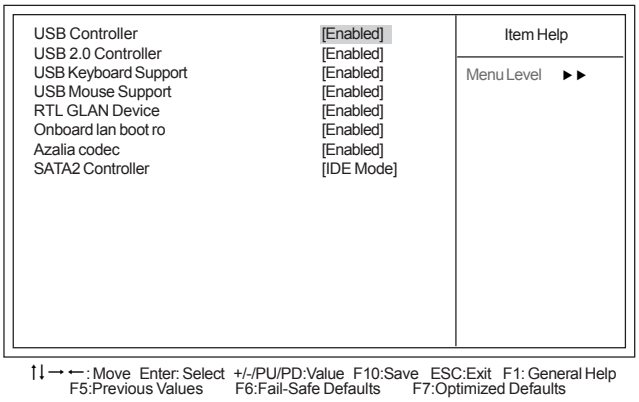
Integrated Peripherals

These options display items that define the operation of peripheral components on the system's input/output ports.



▶ Onboard Device (Press Enter)

Scroll to this item and press <Enter> to view the following screen:



USB Controller (Enabled)

Enables or disables the onboard USB controller. We recommend users keep the dafault value. Disabling it might cause the USB devices not to work properly.

USB 2.0 Controller (Enabled)

This item enables or disables the onboard USB 2.0 controller.

USB Keyboard Support (Enabled)

Enable this item if you plan to use a keyboard connected through the USB port in a legacy operating system (such as DOS) that does not support Plug and Play.

USB Mouse Support (Enabled)

Enable this item if you plan to use a mouse connected through the USB port in a legacy operating system (such as DOS) that does not support Plug and Play.

RTL GLAN Device (Enabled)

Use this item to enable or disable the Realtek GLAN device.

Azalia codec (Enabled)

This item allows you to control the onboard Azalia audio function.

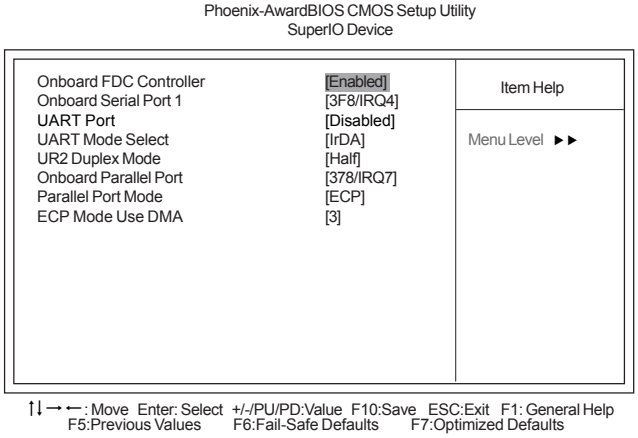
SATA2 Controller (IDE Mode)

Enables and disables the onboard SATA2 device.

Press <Esc> to return to the Integrated Peripherals page.

▶ SuperIO Device (Press Enter)

Scroll to this item and press <Enter> to view the following screen:



Onboard FDC Controller (Enabled)

Select Enabled if your system has a floppy disk controller (FDC) installed on the system board and you wish to use it. If you install an add-in FDC or the system has no floppy drive, select Disabled in this field.

Onboard Serial Port 1 (3F8/IRQ4)

This option is used to assign the I/O address and interrupt request (IRQ) for onboard serial port1.

UART Port (Disabled)

This option is used to assign the I/O address and interrupt request (IRQ) for UART Port.

UART Mode Select (IrDA)

This field is available if the UART Port is set to any option but Disabled. this item enables you to select the infrared communication protocol-Normal, IrDA, or ASKIR.

UR2 Duplex Mode (Half)

This option is available when UART 2 Mode is set to either ASKIR or IrDA. It enables you to determine the infrared function of the onboard infrared chip.

Onboard Parallel Port (378/IRQ7)

This option is used to assign the I/O address and interrupt request (IRQ) for the onboard parallel port.

Parallel Port Mode (ECP)

Enables you to set the data transfer protocol for your parallel port. There are four options: SPP (Standard Parallel Port), EPP (Enhanced Parallel Port), ECP (Extended Capabilities Port), and ECP+EPP.

ECP Mode Use DMA (3)

When the onboard parallel port is set to ECP mode, the parallel port can use DMA3/1.

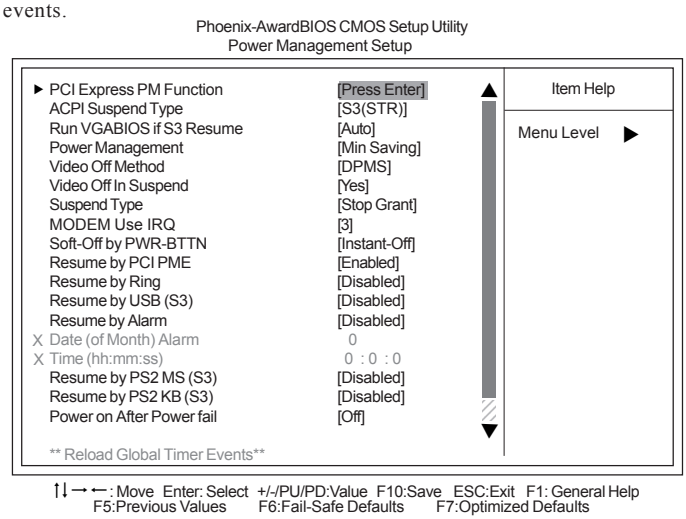
Power on After Power fail (Off))

This item enables your computer to automatically restart or return to its last operating status after power returns from a power failure.

Press <Esc> to return to the Main menu setup page.

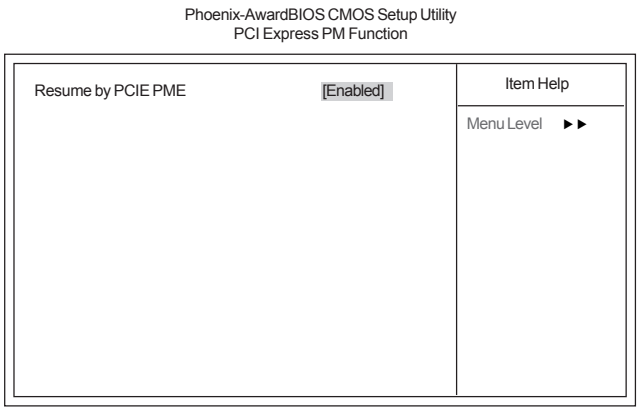
Power Management Setup

This option lets you control system power management. The system has various power-saving modes including powering down the hard disk, turning off the video, suspending to RAM, and software power down that allows the system to be automatically resumed by certain events.



► PCI Express PM Function (Press Enter)

Scroll to this item and press <Enter> to view the following screen:



Resume by PCIE PME (Enabled)

This item specifies whether the system will be awakened from power saving modeswhenactivity or input signal of the specified hardware peripheral or component isdetected.

Press <Esc> to return to the Power management setup page.

ACPI Suspend Type (S3(STR))
Use this item to define how your system suspends. In the default, S3 (STR), the suspend mode is a suspend to RAM, i.e., the system shuts down with the exception of a refresh current to the system memory.

Run VGABIOS if S3 Resume (Auto)
This item allows the system to initialize the VGA BIOS from S3 (Suspend to RAM) sleep state.

Power Management (Min Saving)

Use this item to enable or disable a power management scheme. If you enable power management, you can use the items below to set the power management operation.

Video Off Method (DPMS)

This item defines how the video is powered down to save power. This item is set to DPMS (Display Power Management Software) by default.

Video Off In Suspend (Yes)

This option defines if the video is powered down when the system is put into suspend mode.

Suspend Type (Stop Grant)

If this item is set to the default Stop Grant, the CPU will go into Idle Mode during power saving mode.

MODEM Use IRQ (3)

If you want an incoming call on a modem to automatically resume the system from a power-saving mode, use this item to specify the interrupt request line (IRQ) that is used by the modem. You might have to connect the fax/modem to the motherboard Wake On Modem connector for this feature to work.

Soft-Off by PWR-BTTN (Instant-Off)
Under ACPI (Advanced Configuration and Power management Interface) you can create a software power down. In a software power down, the system can be resumed by Wake Up Alarms. This item lets you install a software power down that is controlled by the power button on your system. If the item is set to Instant-Off, then the power button causes a software power down. If the item is set to Delay 4 Sec. then you have to hold the power button down for four seconds to cause a software power down.

Resume by PCI PME (Enabled)

This item specifies whether the system will be awakened from power saving modes when activity or input signal of the specified hardware peripheral or component is detected.

Resume by RING (Disabled)
An input signal on the serial Ring Indicator (RI) line (in other words, an incoming call on the modem) awakens the system from a soft off state.

Resume by USB (S3) (Disabled)
This option allows the activity of the USB devices (keyboard and mouse) to wake-up the system from S3 sleep state.

Resume by Alarm (Disabled)
When set to Enabled, additional fields become available and you can set the date (day of the month), hour, minute and second to turn on your system. When set to 0 (zero) for the day of the month, the alarm will power on your system every day at the specified time.

Resume By PS2 MS/KS(S3) (Disabled)
Enable or disable the function of waking up the system by the mouse/keyboard activity.

Power on After Power fail (Off)
This item enables your computer to automatically restart or return to its last operatingstatus after power returns from a power failure.

**** Reload Global Timer Events ****
Global Timer (power management) events are I/O events whose occurrence can prevent the system from entering a power saving mode or can awaken the system from such a mode. In effect, the system remains alert for anything that occurs to a device that is configured as Enabled, even when the system is in a power-down mode.

Primary/Secondary IDE 1/0 (Disabled)
When these items are enabled, the system will restart the power-saving timeout counters when any activity is detected on any of the drives or devices on the primary or secondary IDE channels.

FDD, COM, LPT Port (Disabled)

When this item is enabled, the system will restart the power-saving timeout counters when any activity is detected on the floppy disk drive, serial ports, or the parallel port.

PCI PIRQ[A-D]# (Disabled)

When this item is enabled, any activity from one of the listed devices wakes up the system.

Press <Esc> to return to the Main menu setup page.

PNP/PCI Configurations

These options configure how PnP (Plug and Play) and PCI expansion cards operate in your system. Both the the ISA and PCI buses on the motherboard use system IRQs (Interrup ReQuests) and DMAs (Direct Memory Access). You must set up the IRQ and DMA assignments correctly through the PnP/PCI Configurations Setup utility for the motherboard to work properly. Selecting PnP/PCI Configurations on the main program screen displays this menu:

Phoenix-AwardBIOS CMOS Setup Utility
PnP/PCI Configurations

			Item Help
	Init Display First	[PCI Slot]	
	Reset Configuration Data	[Disabled]	Menu Level ►
	Resources Controlled By	[Auto(ESCD)]	
X	IRQ Resources	Press Enter	
	PCI/VGA Palette Snoop	[Disabled]	
	Assign IRQ For USB	[Auto]	
	INT Pin 1 Assignment	[Auto]	
	INT Pin 2 Assignment	[Auto]	
	INT Pin 3 Assignment	[Auto]	
	INT Pin 4 Assignment	[Auto]	
	INT Pin 5 Assignment	[Auto]	
	INT Pin 6 Assignment	[Auto]	
	INT Pin 7 Assignment	[Auto]	
	INT Pin 8 Assignment	[Auto]	
	** PCI Express relatvie items**		
	Maximum Payload Size	[4096]	

↑↓→←: Move Enter: Select +/-/PU/PD:Value F10:Save ESC:Exit F1: General Help
F5:Previous Values F6:Fail-Safe Defaults F7:Optimized Defaults

Init Display First (PCI Slot)

This item allows you to choose the primary display card.

Reset Configuration Data (Disabled)

If you enable this item and restart the system, any Plug and Play configuration data stored in the BIOS Setup is cleared from memory.

Resources Controlled By (Auto(ESCD))

You should leave this item at the default Auto (ESCD). Under this setting, the system dynamically allocates resources to Plug and Play devices as they are required.
If you cannot get a legacy ISA (Industry Standard Architecture) expansion card to work properly, you might be able to solve the problem by changing this item to Manual, and then opening up the IRQ Resources submenu.

- **IRQ Resources**:In the IRQ Resources submenu, if you assign an IRQ to Legacy ISA, then that Interrupt Request Line is reserved for a legacy ISA expansion card. Press <Esc> to close the IRQ Resources submenu.
  In the Memory Resources submenu, use the first item Reserved Memory Baseto set the start address of the memory you want to reserve for the ISA expansion card. Use the section item Reserved Memory Length to set the amount of reserved memory. Press <Esc> to close the Memory Resources submenu.

PCI/VGA Palette Snoop (Disabled)

This item is designed to overcome problems that can be caused by some non-standard VGA cards. This board includes a built-in VGA system that does not require palette snooping so you must leave this item disabled.

Assign IRQ For USB (Enabled)

This item enables or disables IRQ allocation for the USB (Universal Serial Bus).

INT Pin 1-8 Assignment (Auto)

Identifies the interrupt request (IRQ) line assigned to a device connected to the PCI interface of your system.

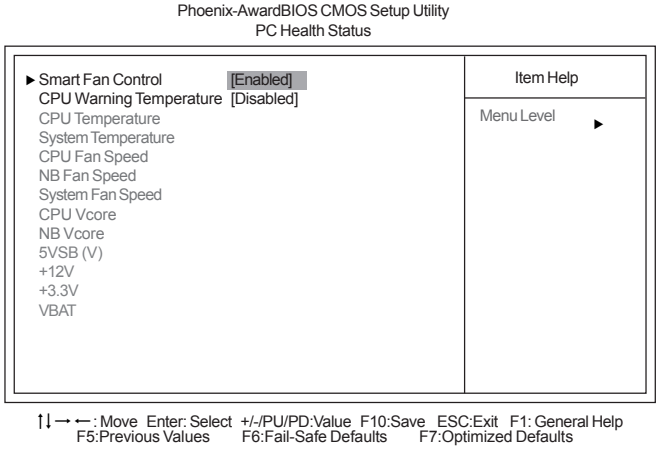
Maximum Payload Size (4096)

This item specifies the maximum TLP payload size for the PCI Express devices. The unit is byte.

Press <Esc> to return to the Main menu setup page.

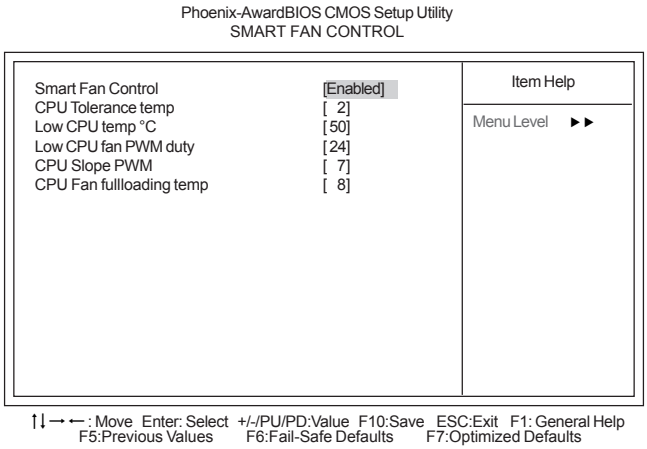
PC Health Status

On motherboards that support hardware monitoring, this item lets you monitor the parameters for critical voltages, temperatures and fan speeds.



► SMART FAN CONTROL (Press Enter)

Scroll to this item and press <Enter> to view the following screen:



Smart Fan Control (Enabled)

This item enables or disables the Smart fan function, when it is set at certaintemperature, , the PWM value will reach the certain value accordingly, and wecan adjust the CPU fanspeed by PWM.

CPU Tolerance temp (2)

This item is used to set the tolerance temperacture of CPU fanspeed.

Low CPU temp °C (58)

This item is used to set the lowest temperacture of CPU fanspeed.

Low CPU fan PWM duty (24)

This item is used to set the lowest CPU fan PWM value.

CPU Slope PWM (7)

Use this item to set the CPU slop PWM value.

CPU Fan fullloading temp (8)

This item defines the CPU temperacture while fan is at fullloading.

Press <Esc> to return to the PC Health setup page.

CPU Warning Temperature (Disabled)

Enable you to manually set the warning temperature of the system.

System Component Characteristics

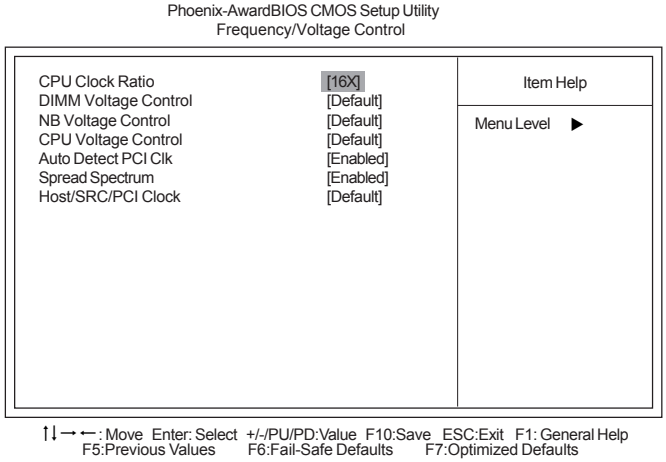
These fields provide you with information about the systems current operating status. You cannot make changes to these fields.

- CPU Warning Temperature
- System Temperature
- CPU Fan Speed
- NB Fan Speed
- CPU Temperature
- System Fan Speed
- CPU Vcore
- NB Vcore
- 5VSB (V)
- +12V
- +3.3V
- VBAT

Press <Esc> to return to the Main menu setup page.

Frequency/Voltage Control

This item enables you to set the clock speed and system bus for your system. The clock speed and system bus are determined by the kind of processor you have installed in your system.



CPU Clock Ratio (16X)

Enables you to set the CPU clock. The CPU clock ratio times the CPU Host/PCI Clock should equal the core speed of the installed processor.

Example:	***CPU Clock Ratio***		***16***
	CPU Frequency	***x***	***200***
	Installed CPU Clock Speed		***3200MHz***

DIMM/NB/CPU Voltage Control (Default)

Use this item to enable the DIMM/NB/CPU voltage control function.

Auto Detect PCI Clk (Enabled)

When this item is enabled, BIOS will disable the clock signal of free DIMM and PCI slots.

Spread Spectrum (Disabled)

If you enable spread spectrum, it can significantly reduce the EMI (Electro-Magnetic Interference) generated by the system.

Host/SRC/PCI Clock (Default)

This item allows you to adjust the SRC/PCI Clock clock. You can key-in the numbers within the range to make a precise and ideal adjustment.

Press <Esc> to return to the Main menu setup page.

Load Fail-Safe Defaults Option

This option opens a dialog box that lets you install fail-safe defaults for all appropriate items in the Setup Utility: Press <Y> and the <Enter> to install the defaults. Press <N> and then <Enter> to not install the defaults. The fail-safe defaults place no great demands on the system and are generally stable. If your system is not functioning correctly, try installing the fail-safe defaults as a first step in getting your system working properly again. If you only want to install fail-safe defaults for a specific option, select and display that option, and then press <F6>.

Load Optimized Defaults Option

This option opens a dialog box that lets you install optimized defaults for all appropriate items in the Setup Utility. Press <Y> and then <Enter> to install the defaults. Press <N> and then <Enter> to not install the defaults. The optimized defaults place demands on the system that may be greater than the performance level of the components, such as the CPU and the memory. You can cause fatal errors or instability if you install the optimized defaults when your hardware does not support them. If you only want to install setup defaults for a specific option, select and display that option, and then press <F7>.

Users please remain the factory BIOS default setting of "Load optimized Defaults" when install Operation System onto your system.

Set Supervisor/User Password

When this function is selected, the following message appears at the center of the screen to assist you in creating a password.

ENTER PASSWORD

Type the password, up to eight characters, and press <Enter>. The password typed now will clear any previously entered password from CMOS memory. You will be asked to confirm the password. Type the password again and press <Enter>. You may also press <Esc> to abort the selection.

To disable password, just press <Enter> when you are prompted to enter password. A message will confirm the password being disabled. Once the password is disabled, the system will boot and you can enter BIOS Setup freely.

PASSWORD DISABLED

If you have selected "**System**" in "Security Option" of "BIOS Features Setup" menu, you will be prompted for the password every time the system reboots or any time you try to enter BIOS Setup.

If you have selected "**Setup**" at "Security Option" from "BIOS Features Setup" menu, you will be prompted for the password only when you enter BIOS Setup.

Supervisor Password has higher priority than User Password. You can use Supervisor Password when booting the system or entering BIOS Setup to modify all settings. Also you can use User Password when booting the

system or entering BIOS Setup but can not modify any setting if Supervisor Password is enabled.

Save & Exit Setup

Highlight this item and press <Enter> to save the changes that you have made in the Setup Utility and exit the Setup Utility. When the Save and Exit dialog box appears, press <Y> to save and exit, or press <N> to return to the main menu.

Exit Without Saving

Highlight this item and press <Enter> to discard any changes that you have made in the Setup Utility and exit the Setup Utility. When the Exit Without Saving dialog box appears, press <Y> to discard changes and exit, or press <N> to return to the main menu.

If you have made settings that you do not want to save, use the "Exit Without Saving" item and press <Y> to discard any changes you have made.

This concludes Chapter 3. Refer to the next chapter for information on the software supplied with the motherboard.

Memo

Chapter 4
Using the Motherboard Software

About the Software CD-ROM

The support software CD-ROM that is included in the motherboard package contains all thedrivers and utility programs needed to properly run the bundled products. Below you can finda brief description of each software program, and the location for your motherboardversion. More information on some programs is available in a README file, located in thesame directory as the software. Before installing any software, always inspect the folder forfiles named README.TXT, INSTALL.TXT, or something similar. These files may con-tain important information that is not included in this manual.

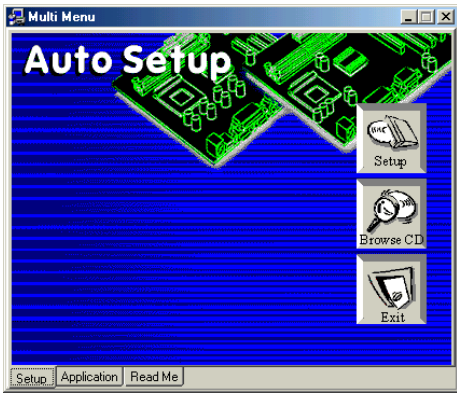
The Intel High Definition audio functionality unexpectedly quits working in Win-dows Server 2003 Service Pack 1 or Windows XP Professional x64 Edition. Usersneed to download and install the update packages from the Microsoft DownloadCenter "before" installing HD audio driver bundled in the Driver CD. Please logon to http://support.microsoft.com/default.aspx?scid=kb;en-us;901105#appliestofor more information.

Auto-installing under Windows 2000/XP

The Auto-install CD-ROM makes it easy for you to install the drivers and software for your motherboard.

If the Auto-install CD-ROM does not work on your system, you can still install drivers through the file manager for your OS (for example, Windows Explorer). Refer to the Utility Folder Installation Notes later in this chapter.

The support software CD-ROM disc loads automatically under Windows 2000/XP. When you insert the CD-ROM disc in the CD-ROM drive, the autorun feature will automatically bring up the install screen. The screen has three buttons on it, Setup, Browse CD and Exit.



If the opening screen does not appear; double-click the file "setup.exe" in the root directory.

Setup Tab

Setup	Click the **Setup** button to run the software installation program. Select from the menu which software you want to install.
Browse CD	The **Browse CD** button is the standard Windows command that allows you to open Windows Explorer and show the contents of the support CD. Before installing the software from Windows Explorer, look for a file named README.TXT, INSTALL.TXT or something similar. This file may contain important information to help you install the software correctly. Some software is installed in separate folders for different operating systems, such as WINXP/2000. Always go to the correct folder for the kind of OS you are using. In install the software, execute a file named SETUP.EXE or INSTALL.EXE by double-clicking the file and then following the instructions on the screen.
Exit	The **EXIT** button closes the Auto Setup window.

Application Tab

Lists the software utilities that are available on the CD.

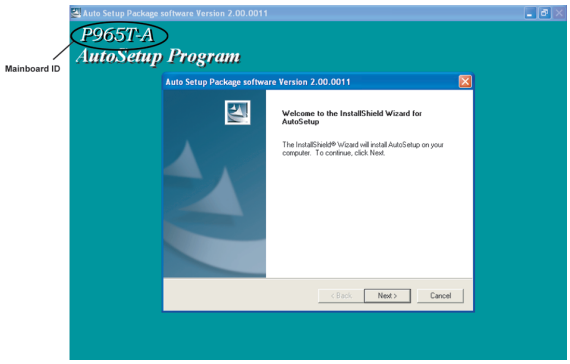
Read Me Tab

Displays the path for all software and drivers available on the CD.

Running Setup

Follow these instructions to install device drivers and software for the motherboard:

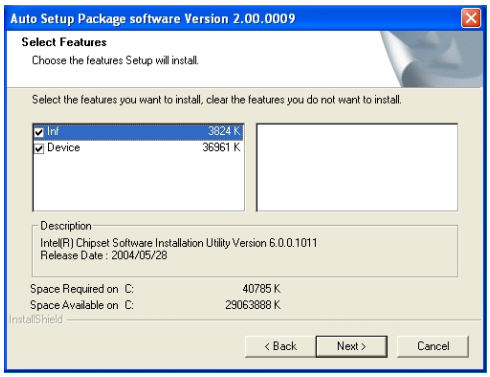
1. *Click **Setup.** The installation program begins:*



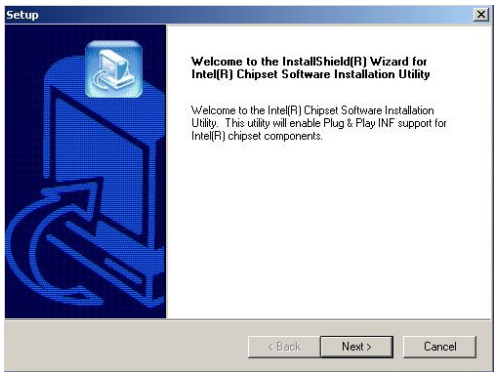
The following screens are examples only. The screens and driver lists will be different according to the motherboard you are installing.

The motherboard identification is located in the upper left-hand corner.

2. *Click **Next.** The following screen appears:*



3. *Check the box next to the items you want to install. The default options are recommended.*
4. *Click **Next** run the Installation Wizard. An item installation screen appears:*



5. *Follow the instructions on the screen to install the items.*

Drivers and software are automatically installed in sequence. Follow the onscreen instructions, confirm commands and allow the computer to restart a few times to complete the installation.

Manual Installation

Insert the CD in the CD-ROM drive and locate the PATH.DOC file in the root directory. This file contains the information needed to locate the drivers for your motherboard.

Look for the chipset and motherboard model; then browse to the directory and path to begin installing the drivers. Most drivers have a setup program (SETUP.EXE) that automatically detects your operating system before installation. Other drivers have the setup program located in the operating system subfolder.

If the driver you want to install does not have a setup program, browse to the operating system subfolder and locate the readme text file (README.TXT or README.DOC) for information on installing the driver or software for your operating system.

Utility Software Reference

All the utility software available from this page is Windows compliant. They are provided only for the convenience of the customer. The following software is furnished under license and may only be used or copied in accordance with the terms of the license.

These software(s) are subject to change at anytime without prior notice. Please refer to the support CD for available software.

This concludes Chapter 4.

Chapter 5
JMB361 RAID Setup Guide

JMicron® RAID Configuration

The JMicron® Serial ATA controller allows you to configure RAID 0, RAID 1 and JBOD sets on the external Serial ATA hard disk drives.

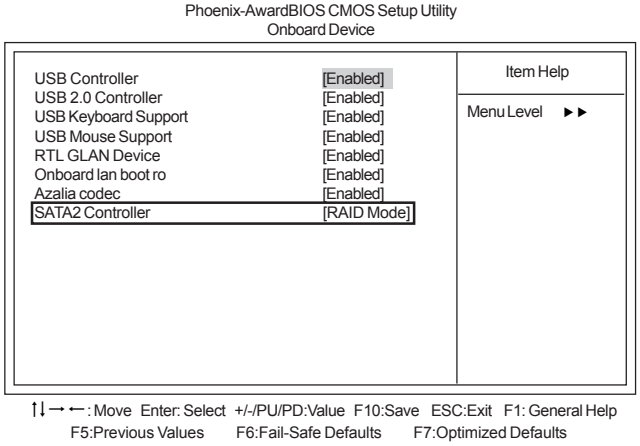
Before creating a RAID set

Prepare the following items:

1. Two SATA HDDs, preferably with the same model and capacity.
2. A write-enabled floppy disk
3. Microsoft® Windows® OS installation disk (Windows 2000/XP)
4. Motherboard support CD with JMB361 driver

Complete the following steps before you create a RAID set:

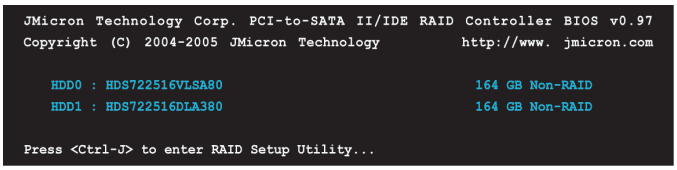
1. Install the external Serial ATA hard disk drives (HDDs) on your system.
2. Set the SATA2 Controller item in the BIOS to .RAID Mode..
   See section " Onboard Device " for details.



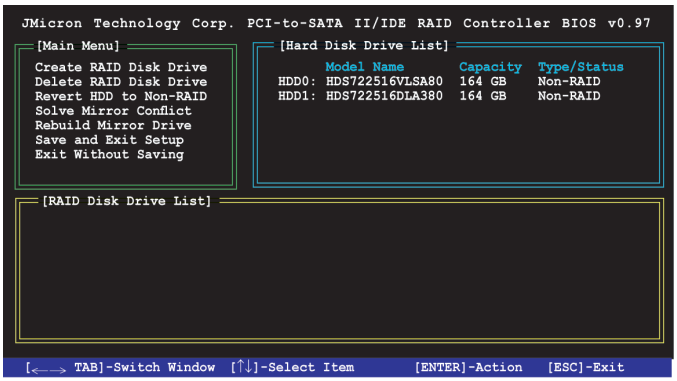
3. Enter the JMB361 RAID BIOS utility to set up your RAID configuration.
4. Create a JMB361 RAID driver disk for Windows® OS installation. See section "Creating a RAID driver disk" for details.
5. Install the JMB361 driver after the Windows® OS had been installed.

Entering the JMB361 RAID BIOS utility

1 During POST, press <Ctrl-J> to enter the JBM361 RAID BIOS menu.

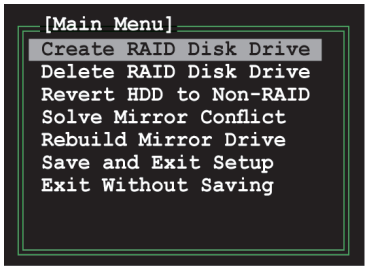


2 The main JMB361 RAID BIOS menu appears.
3. Use the arrow keys to move the color bar and navigate through the items.



Creating a RAID set

1 In the main JMB361 RAID BIOS menu, highlight Create RAID Disk Drive using the up/down arrow key then press <Enter>.

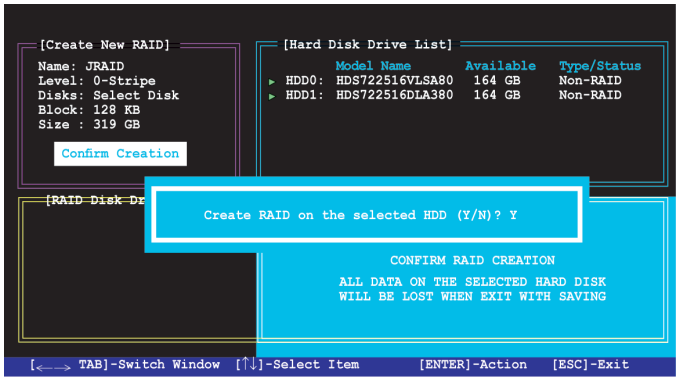


2 When the Level item is highlighted, use the up/down arrow key to select the RAID set that you want to create.

3. When the Disks item is highlighted, use the up/down arrow key to highlight an HDD that you want to belong to the RAID set, then press the space bar to confirm selection. Repeat the process until the HDDs are selected.
A selected HDD shows a ▶ sign before it.

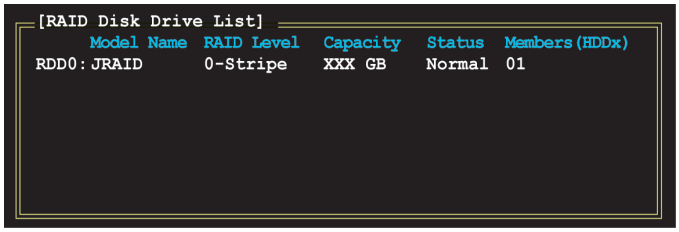
4 Key in the RAID volume capacity. Use the up/down arrow to choose the block size. The default value indicates the maximum allowed capacity.

5 When done, press <Enter> to confirm the creation of the RAID set. A dialogue box appears to confirm the action. Press <Y> to confirm; otherwise, press <N>.



Pressing <Y> deletes all the data in the HDDs.

6 The following screen appears, displaying the relevant information about the RAID set you created.

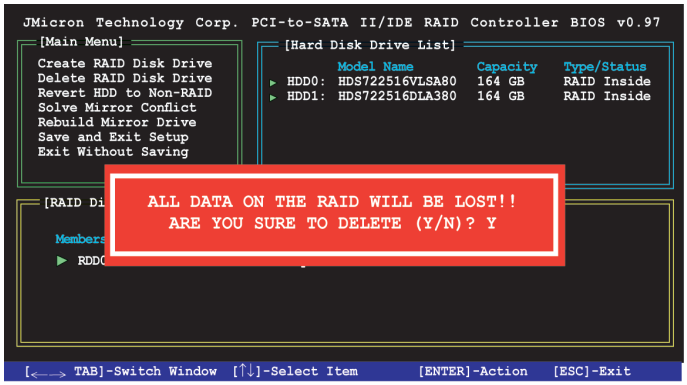


Deleting a RAID set

1 In the main JMB361 RAID BIOS menu, highlight Delete RAID Disk Drive using the up/down arrow key then press <Enter>.

2 Use the space bar to select the RAID set you want to delete.
A selected set shows a ► sign before it. Press the <Del> key to delete the set.

3. A dialogue box appears to confirm the action. Press <Y> to confirm; otherwise, press <N>.



Pressing <Y> deletes all the data in the HDDs.

Resetting disks to non-RAID

An HDD that has been previously configured as part of another RAID set in another platform is called a broken RAID HDD. When you install a broken RAID HDD, you cannot select this HDD when configuring a RAID set through the JMB361 utility.

If you still want to use this broken RAID HDD as part of the RAID set configured through the JMB361, you may do so by resetting the disk to non-RAID. You will, however, lose all data and previous RAID configurations.

To reset disks to non-RAID:

1 In the main JMB361 RAID BIOS menu, highlight Revert HDD to non-RAID using the up/down arrow key then press <Enter>.

2. Use the space bar to select the HDD that you want to reset to non-RAID. A selected HDD shows a sign ▶ before it.
3. A dialogue box appears to confirm the action. Press <Y> to confirm; otherwise, press <N>.

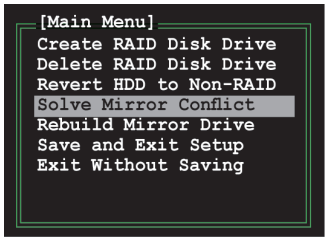
Pressing <Y> deletes all the data in the HDDs.

Solving a Mirror conflict

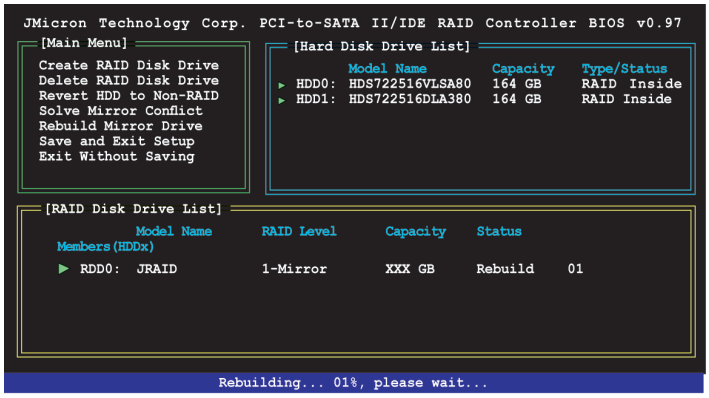
A Mirror conflict occurs when both disks in a RAID 1 (Mirror) configuration are unplugged from the system in turn, then plugged in again. Since both disks contain exactly the same data, the system will be unable to determine which of the two is the source drive. This option allows you to set the source drive and rebuild the Mirror drive according to the contents of the source drive.

To solve a Mirror conflict:

1 In the main JMB361 RAID BIOS menu, highlight Solve Mirror Conflict using the up/down arrow key then press <Enter>.



2. Use the space bar to select the HDD that you want to set as source drive. A selected HDD shows a ▶ sign before it.
3. Using the <TAB>, move to the RAID Disk Drive List menu and highlight the RAID set that you want to rebuild. Press <Del> to begin rebuilding the Mirror configuration.
   A status bar at the bottom of the screen shows the progress of the rebuilding.



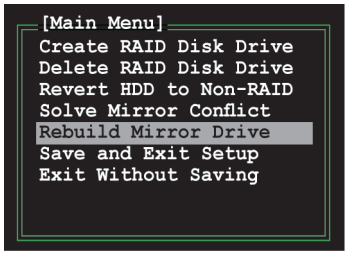
Rebuilding a Mirror Drive

When one of the disks in a RAID 1 (Mirror) configuration is unplugged from the system, then plugged in again, a dialogue box appears to ask you to rebuild the Mirror drive. Press<Y>toconfirm;otherwise, press<N>. Press <Y> to confirm; otherwise, press <N>.

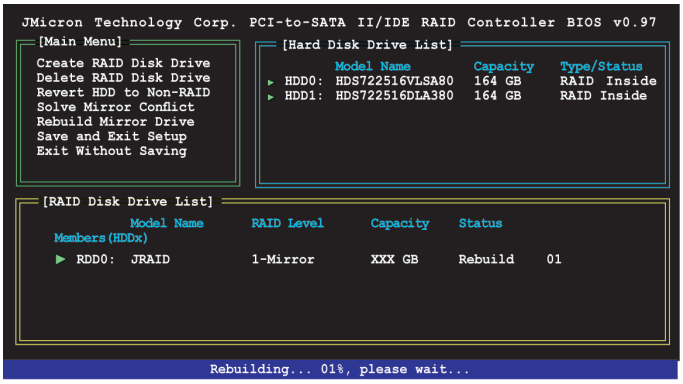
This option allows you to rebuild the Mirror drive later and synchronize the data between two hard disks.

To rebuild a Mirror drive:

1 In the main JMB361 RAID BIOS menu, highlight Rebuild Mirror Drive using the up/down arrow key then press <Enter>.



2. Using the <TAB>, move to the RAID Disk Drive List menu and highlight the RAID set that you want to rebuild. Press <Del> to begin rebuilding the Mirror configuration.
A status bar at the bottom of the screen shows the progress of the rebuilding.



Saving the settings and exiting setup

When you have finished, highlight Save & Exit Setup using the up/down arrow key then press <Enter> to save the current RAID configuration and exit the JMB361 RAID BOS utility.

A dialogue box appears to confirm the action. Press <Y> to confirm; otherwise, press <N> to return to the JMB RAID BIOS menu.

Caractéristiques

Processeur

La carte mère utilise un type LGA775 d'Intel Core™2 Extreme/ Core™2 Duo/Pentium 4/ Celeron D/ Pentium D comportant les caractéristiques suivantes :

- Peut recevoir les processeurs Intel Core™ 2 Extreme/ Core™ 2 Duo/ Pentium 4/ Celeron D/Pentium D
- Support un bus système (FSB) de 1066/800/533 MHz
- Supporte le CPU de technologie "Hyper-Threading"

La technologie "Hyper-Threading" permet au système d'exploitation de penser qu'il est connecté à deux processeurs, permettant d'exécuter deux threads en parallèle, à la fois sur des processeurs 'logiques' dans le même processeur physique.

Chipset

Le chipset P965 Northbridge (NB) Chipset et ICH8 Southbridge (SB) se base sur une architecture innovante et évolutive avec des performances et une fiabilité éprouvées.

P965 (NB)

- Prend en charge l'adressage de bus hôte 36 bits, permettant au CPU d'accéder à l'espace de 64 Go complet d'adresse mémoire.
- Interface Direct Media (DMI) point à point de 2 Go/s vers chaque direction ICH8 (1 Go/s).
- Prend en charge un port PCI Express 16 lignes destiné aux graphiques joints, entièrement compatible avec les spécifications de base PCI Express révision 1.1
- Prend en charge les fréquences DIMM mémoire DDR2 de 800/667/533 MHz.
- Prend en charge les technologies 256-Mo, 512-Mo et 1-Go pour x8 et x16 périphériques

ICH8 (SB)

- Fonctions de Contrôleur DMA amélioré, de contrôleur d'interruption, et de minuterie d'événement de haute précision
- Conforme aux spécifications de base PCI Express, v1.1
- Conforme aux spécifications PCI 2.3 en 33 MHz
- Conforme aux spécifications ATA II Série
- Contrôleur d'Hôte USB 2.0 intégré prenant en charge jusqu'à dix ports USB 2.0
- Prend en charge la technologie de gestion AMT (Active Management Technology) d'Intel
- Prend en charge la Technologie de stockage Intel Matrix

Mémoire

- SDRAM DDR2 800/667/533 DDR2 avec architecture DDR2 en double canal
- Peut recevoir quatre DIMM sans tampon, taille mémoire maximum de 8 Go

Multi-Language Translation

LAN interne (Optionnel)

Cette carte mère prend en charge les chipsets LAN suivants :

• Supporte le fonctionnement en Auto-négociation N-Way en 100/10 Mb/s • Prend en charge la capacite half/full duplex • Prend en charge la fonction Wake-On-LAN (réveil par appel réseau) et le réveil à distance
• Emetteur-récepteur 10/100/1000 intégré • Prend en charge PCI v2.3, 32 bits, 33/66-MHz • Prise en charge totale de IEEE802.3, IEEE802.3u et IEEE802.3ab

Audio

- 8 canaux de format PCM 24/20/16-bits de support DAC pour solution audio 7.1
- Supporte la vitesse d'échantillonnage DAC de 192K/96K/48K/44,1KHz
- Support d'alimentation : Numérique : 3,3V; Analogique : 3,5V~5,25V
- Conforme aux exigences audio de Microsoft WHQL/WLP 2.x
- Compatible Direct Sound 3D™
- Sortie d'encodeur Dolby® Digital pour application électronique consommateur

Options d'extension

La carte mère comporte les options d'extension suivantes :

- Deux connecteurs PCI Express x16 (x16, x4) pour interface graphique
- Deux connecteurs PCI Express x1
- Trois emplacements PCI v2.3 32bits
- Un en-têtes demi-hauteur IDE de 40 broches supportant deux canaux IDE
- Une interface lecteur de disquettes
- Cinq connecteurs SATA à 7 broches

La carte mère prenant en charge la maîtrise de bus UltraDMA avec vitesses de transfert de 100/66 Mo/s.

E/S intégrées

La carte mère comporte un ensemble complet de connecteurs et de ports E/S :

- Deux ports PS/2 pour souris et clavier
- Un port série
- Un port parallèle
- Quatre ports USB 2.0/1.1
- Un port LAN (optionnel)
- Prises audio pour entrée microphone, entrée de ligne et Audio Haute Définition 8 ch.

Microprogramme BIOS

La carte mère utilise Award BIOS qui permet à l'utilisateur de configurer bon nombre de fonctions du système, dont :

- Gestion d'alimentation
- Alertes de réveil
- Paramètres de CPU
- Synchronisation de CPU et de mémoire

Le micro-programme peut également être utilisé pour définir les paramètres pour différentes vitesses d'horloge de processeur.

Certaines spécifications matérielles et certains éléments logiciels sont susceptibles de modification sans préavis.

Multi-Language Translation

Features

Prozessor

Das Mainboard verwendet einen LGA775 Typ Intel Core™2 Extreme/ Core™2 Duo/Pentium 4/ Celeron D/ Pentium D mit den folgenden Eigenschaften:

- Nimmt Intel Core™ 2 Extreme/ Core™ 2 Duo/ Pentium 4/ Celeron D/Pentium D Prozessoren auf
- Unterstützt einen Systembus (FSB) mit 1066/800/533 MHz.
- Unterstützt CPU mit “Hyper-Threading”-Technologie.

“Hyper-Threading”-Technologie läßt das Betriebssystem glauben, es sei an zwei Prozessoren angeschlossen, was zwei parallele Threads auf separaten ‘logischen’ Prozessoren im selben physischen Prozessor erlaubt.

Chipsatz

Die P965 Northbridge (NB) und ICH8 Southbridge (SB) Chipsätze basieren auf einer innovativen und skalierbaren Architektur mit bewiesener Zuverlässigkeit und Leistung.

P965 (NB)

- Unterstützung einer 36-Bit Host-Bus-Adressierung, welche der CPU einen Zugriff zum kompletten Speicherplatz von 64 GB erlaubt.
- 2 GB/s Punkt-zu-Punkt Direct Media Interface (DMI) zu ICH8 (1 GB/s) in jede Richtung.
- Unterstützt einen 16-Lane PCI Express Anschluss für den Grafikanschluss, vollständig kompatibel zu PCI Express Base Spezifikation Revision 1.1
- Unterstützt DDR2-Speicher DIMM-Frequenzen von 800/667/533 MHz.
- Unterstützung von 256-Mb, 512-Mb und 1-Gb Technologien für x8 und x16 Zubehör.

ICH8 (SB)

- Erweiterter DMA-Controller, Interrupt-Controller und High Precision Event Timerfunktionen
- Entspricht PCI Express Base Spezifikation, v1.1
- Entspricht den Richtlinien der PCI 2.3- spezifikationen von 33 MHz
- Gemäß Serial ATA II Spezifikationen.
- Integrierter USB 2.0 Host-Kontroller, welcher bis zu zehn USB 2.0 Steckvorrichtungen unterstützt.
- Unterstützt Intel Active Management-Technologie
- Unterstützt Matrix Storage-Technologie

Arbeitsspeicher

- DDR2 800/667/533 DDR2 SDRAM mit Dualkanal DDR2-Architektur
- Es können zwei ungepufferte DIMMs aufgenommen werden.
- Nimmt vier ungepufferte DIMMs auf; die maximale Speichergröße beträgt bis zu 8 GB

Multi-Language Translation

Integriertes LAN (optional)

Dieses Mainboard kann einen der folgenden LAN-Chipsätze unterstützen:

• Unterstützt den Betrieb bei 100/10 Mb/s N-Way Auto-Negotiation • Unterstützt Halb-/Vollduplex • Unterstützt Wake-On-LAN-Funktion und Remote-Wake-up
• Enthält 10/100/1000 Transceiver • Unterstützung von PCI v2.3, 32-Bit, 33/66-MHz • Vollständige Unterstützung für IEEE802.3, IEEE802.3u und IEEE802.3ab

Audio

- 8-Kanal DAC Unterstützung 24/20/16-Bit PCM-Format für 7.1 Audio
- Unterstützt 192K/96K/48K/44.1KHz DAC Abtastrate
- Netzteilunterstützung: Digital: 3,3V; Analog: 3,5V~5,25V
- Entspricht den Anforderungen von Microsoft WHQL/WLP 2.x
- Kompatibel mit Direct Sound 3D™
- Dolby® Digital Encoderausgang für Endverbrauchergeräte

Erweiterungsmöglichkeiten

Das Mainboard ist mit den folgenden Erweiterungsmöglichkeiten ausgestattet:

- Zwei PCI Express x16 Anschlüsse (x16, x4) für Grafik-Interface
- Zwei PCI Express x1 Anschlüsse
- Drei 32-bit PCI v2.3-Steckplätze
- Einen 40-Pin IDE low profile-Stecker, die zwei IDE-Kanäle unterstützen
- Ein Diskettenlaufwerkanschluss
- Fünf 7-Pin SATA Anschlüsse

Die Mainboard unterstützt UltraDMA Bus Mastering mit einer Übertragungsrate von 100/66 MB/Sek.

Integrierte I/O-Schnittstellen

Das Mainboard verfügt über einen kompletten Satz von I/O-Schnittstellen und Anschlüssen:

- Zwei PS/2-Anschlüsse für Maus und Tastatur
- Eine serielle Schnittstelle
- Eine parallele Schnittstelle
- Vier USB 2.0/1.1 Schnittstelle
- Ein LAN-Anschluss (optional)
- Audiostecker fur Mikrofoneingang, line-in und hoch definiertem Ton mit 8 Kanalen

BIOS-Firmware

Das Mainboard verwendet Award BIOS, das es Benutzern gestattet, viele Systemfunktionen inkl. der Folgenden zu konfigurieren:

- Energieverwaltung
- Aufweckfunktionen
- CPU-Parameter
- CPU- und Arbeitsspeicherfrequenz

Die Firmware kann auch zur Einstellung von Parametern für verschiedene Prozessortaktgeschwindigkeiten verwendet werden.

Manche Hardwarespezifikationen und Softwareelemente können ohne Ankündigung geändert werden.

Multi-Language Translation

Caratteristiche

Processore

La scheda madre utilizza un tipo LGA775 di processore Intel Core™2 Extreme / Core™2 Duo / Pentium 4 / Celeron D/ Pentium D che offre le seguenti caratteristiche:

- Compatibile con processori Intel Core™ 2 Extreme / Core™ 2 Duo / Pentium 4 / Celeron D /Pentium D
- Supporta un bus di sistema (FSB) fino a 1066/800/533 Mhz
- Supporta CPU con tecnologia “Hyper Threading”

La tecnologia “Hyper-Threading” induce il sistema operativo a pensare di essere collegato a due processori, questo permette di eseguire due thread in parallelo, ambedue su processori “logicamente” separati all’interno dello stesso processore.

Chipset

I chipset P965 Northbridge (NB) e ICH8 Southbridge (SB) sono basati su una architettura innovativa e scalabile dalle prestazioni e affidabilità garantite.

P965 (NB)

- Supporta un indirizzamento host bus da 36 bit, consentendo alla CPU di accedere a tutti i 64 GB della memoria di sistema.
- Interfaccia DMI (Direct Media Interface) point-to-point da 2 GB/s in ciascuna direzione (1 GB/s) ICH8.
- Supporto di una porta PCI Express a 16 corsie destinata all’uso con collegamento grafico, con compatibilità completa con la revisione 1.1 della specifica PCI Express Base
- Supporto di frequenze del DIMM della memoria DDR2 di 800/667/533 MHz.
- Supporta tecnologie da 256-Mb, 512-Mb e 1-Gb per dispositivi x8 e x16

ICH8 (SB)

- Funzioni migliorate del controller DMA, del controller di interruzione e del timer di eventi a elevata precisione
- Conforme alla specifica PCI Express Base, v1.1
- Conforme alle specifiche PCI 2.3 a 33 MHz
- Conforme alle specifiche Serial ATA II
- Host Controller USB 2.0 integratoin grado di supporare sino a 10 porte USB 2.0
- Supporto della tecnologia Intel Active Management
- Supporto della tecnologia Intel Matrix Storage

Memoria

- Supporto di SDRAM DDR2 800/667/533 DDR2 con architettura DDR2 Dual Channel
- Compatibile con quattro DIMM senza buffer per una capacità massima di memoria di 8 GB

Multi-Language Translation

LAN integrata (Opzionale)

La scheda madre offre supporto per uno dei seguenti chipset LAN:

- Supporto di NWay Auto-negotiation a 100/10 Mb/s
- Supporto di funzionalità half/full duplex
- Supporto di funzionalità Wake-On-LAN e riattivazione remota del sistema

- Transceiver 10/100/1000 integrato
- Supporta PCI v2.3, 32-bit, 33/66-MHz
- Supporto completo degli standard IEEE802.3, IEEE802.3u e IEEE802.3ab

Audio

- 8 canali per formato PCM a 24/20/16 bit con supporto DAC per soluzioni audio 7.1
- Supporto di velocità di campionamento DAC a 192K/96K/48K/44,1 KHz
- Supporto alimentazione: Digitale: 3,3 V; Analogico: 3,5 V ~ 5,25 V
- Megfelel a Microsoft WHQL/WLP 2.x audio követelményeine
- Compatibile con Direct Sound 3D™
- Uscita Dolby® Digital Encorder per apparecchiature elettroniche di largo consumo

Opzioni di espansione

La scheda madre è dotata delle seguenti opzioni di espansione

- Due slot PCI Express x16 (x16, x4) per interfaccia grafica
- Due slot PCI Express x1
- Tre slot PCI v2.3 a 32 bit
- Una connettori IDE a 40 pin che supportano due canali IDE
- Un'interfaccia per unità disco floppy
- Cinque connettori SATA a 7 pin.

La scheda madre supporta bus master UltraDMA con tasso di trasferimento di 100/66 MB/s.

I/O integrati

La scheda madre è dotata di un set completo di connettori e porte I/O:

- Due porte PS/2 per mouse e tastiera
- Una porta seriale
- Una porta parallela
- Quattro porte USB 2.0/1.1
- Una porta LAN (opzionale)
- Jack audio per microfono, line-in e 8 canali audio ad alta definizione.

Firmware BIOS

Questa scheda madre adotto un BIOS Award che permette agli utenti di configurare le caratteristiche principali del sistema, inclusi:

- Gestione dell'alimentazione
- Allarmi di attivazione
- Parametri CPU
- Sincronizzazione di CPU e memoria

Il firmware può anche essere usato per impostare i parametri per diverse velocità di clock.

Alcune specifiche hardware e software potrebbero essere soggette a cambiamenti senza preavviso.

Multi-Language Translation

Características

Procesador

La placa principal usa un tipo LGA775 de Intel Core™2 Extreme/ Core™2 Duo/Pentium 4/ Celeron D/ Pentium D que lleva las sigtes. características:

- Acomoda procesadores Intel Core™ 2 Extreme/ Core™ 2 Duo/ Pentium 4/ Celeron D/Pentium D
- Soporta un sistema de bus (FSB) de 1066/800/533 MHz
- Soporta CPU de tecnología “Hyper-Threading”

La tecnología “Hyper-Threading” habilita el sistema operativo para que piense como si estuviera conectado a dos procesadores, que permite dos hilos a correr en paralelo, ambos en procesadores “lógicos” dentro del mismo procesador físico.

Chipset

Los chipsets Northbridge P965 (NB) y Southbridge ICH8 (SB) están basados en una arquitectura innovadora y escalable con fiabilidad y rendimiento comprobados.

P965 (NB)

- Soporta la dirección de bus anfitrión 36-bit, que permite la CPU acceder a todos los 64 GB del espacio de dirección de memoria.
- Interfaz Direct Media (DMI) punto a punto de 2 GB/s a ICH8 (1 GB/s) cada dirección.
- Soporta un puerto PCI Express de 16-líneas para Graphics Attach, totalmente compatible con la especificación Base de PCI Express revisión 1.1
- Soporta la memoria DDR2 con frecuencias de DIMM de 800/667/533 MHz.
- Soporta las tecnologías 256-Mb, 512-Mb y 1-Gb para los dispositivos x8 y x16.

ICH8 (SB)

- Controlador DMA reforzado, controlador de interrupción, y funciones de cronometraje High Precision Event
- Conforme con la Especificación Base PCI Express, v1.1
- Conforme con la especificación PCI 2.3 en 33 MHz
- Conforme con la espec. Serial ATA II
- Controlador Anfitrión USB 2.0 Integrado soporta hasta diez puertos USB 2.0.
- Soporta la Intel Active Management Technology
- Soporta la Intel Matrix Storage Technology

Memoria

- DDR2 SDRAM DDR2 800/667/533 con arquitectura DDR2 de canal dual
- Acomoda cuatro DIMMs sin buffer, hasta un tamaño de memoria máximo de 8 GB

Multi-Language Translation

LAN Abordo (optativo)

Esta placa principal puede soportar uno de los sigtes. chipset LAN:

• Soporta operación de Autonegociación N-Way de 100/10 Mb/s • Soporta capacidad duplex medio/completo • Soporta la función Wake-On-LAN y despertar remoto
• Transceptor 10/100/1000 integrado • Soporta PCI v2.3, 32-bit, 33/66-MHz • Soporte total de IEEE802.3, IEEE802.3u y IEEE802.3ab

Audio

- 8 canales de formato PCM de 24/20/16-bit de soporte DAC para la solución de audio 7.1
- Soporta índice de muestreo DAC 192K/96K/48K/44.1KHz
- Soporte de suministro: Digital: 3.3V; Analógico: 3.V~5.25V
- Satisface los requisitos de audio de Microsoft WHQL/WLP 2.x
- Compatible con Direct Sound 3D™
- Salida de Decodificador Digital Dolby® para la aplicación de los electrónicos de consumo

Opciones de expansión

La placa base viene con las opciones siguientes de expansión:

- Dos ranuras PCI Express x16 (x16, x4) para la Interfaz de Gráficas
- Dos ranuras PCI Express x1
- Tres ranuras conforme con 32-bit PCI v2.3
- Una cabezal de perfil bajo 40-pin IDE soporta dos canales IDE
- Una interfaz para unidad de disquete
- Cinco conectores 7-pin SATA

La placa principal soporta el mastering de bus UltraDMA con índices de transferencia de 100/66 MB/s.

I/O integrado

La placa base tiene un conjunto completo de puertos I/O y conectores:

- Dos puertos PS/2 para ratón y de teclado
- Un puerto serie
- Un puerto paralelo
- Cuatro puertos USB 2.0/1.1
- Un puerto LAN (opcional)
- Clavijas de sonido para entrada de microfono, entrada de linea y Sonido de Alta Definicion de 8 canales.

Firmware de BIOS

La placa base utiliza Award BIOS que permite a los usuarios configurar muchas funciones de sistema, incluyendo las siguientes:

- Administración de energía
- Alarmas de encendido
- Parámetros CPU
- Temporización de memoria y CPU

El firmware también puede utilizarse para ajustar los parámetros para diversas velocidades del reloj del procesador.

Algunas especificaciones de hardware y elementos de software están sujetos a cambios sin previo aviso.

Multi-Language Translation

Características

Processador

Esta motherboard usa um tipo de Intel Core™2 Extreme/ Core™2 Duo/Pentium 4/ Celeron D/ Pentium D LGA775 que possui as seguintes características:

- Acomoda processadores Intel Core™ 2 Extreme/ Core™ 2 Duo/ Pentium 4/ Celeron D/Pentium D
- Suporta um bus sistema (FSB) de 1066/800/533 MHz
- Suporta CPU de tecnologia "Hyper-Threading"

A tecnologia "Hyper-Threading" permite que o sistema operativo "pense" que está ligado a dois processadores, permitindo que sejam executados dois threads em paralelo, ambos em processadores "lógicos" separados dentro do mesmo processador físico.

Chipset

Os chipsets da P965 Northbridge (NB) e ICH8 Southbridge (SB) são baseados em uma arquitetura inovativa e escalável com performance e confiabilidade comprovada.

P965 (NB)

- Suporta um endereçamento no host bus de 36-bit, permitindo que o CPU aceda completamente aos 64 GB de espaço de endereçamento da memória.
- Interface Media Directo (DMI) ponto-para-ponto com 2 GB/seg. para ICH8 (1 GB/seg.) cada direcção.
- Suporta uma porta 16-lane PCI Express para Conector de Gráficos, totalmente compatível com a revisão 1.1 da Especificação Base PCI Express
- Suporta frequências DIMM de memória DDR2 de 800/667/533 MHz.
- Suporta 256-Mb, 512-Mb e tecnologias 1-Gb para aparelhos x8 e x16

ICH8 (SB)

- Controlador DMA Melhorado, controlador de interrupção, e funções de temporização de Evento de Precisão Elevada
- Compatível com a Especificação Base PCI Express, v1.1
- Compatível com especificação PCI 2.3 a 33 MHz
- Compatível com Série ATA II
- Controlador Host 2.0 USB integrado suportando até dez portas USB 2.0
- Suporta Tecnologia de Gestão Activa Intel
- Suporta Tecnologia de Armazenamento Intel Matrix

Memória

- DDR2 800/667/533 DDR2 SDRAM com arquitectura DDR2 bicanal
- Acomoda quatro DIMMs sem buffers, com tamanho de memória máxima de 8 GB

Multi-Language Translation

Onboard LAN (opcional)

Esta motherboard poderá suportar qualquer um dos seguintes conjuntos de chips LAN:

• Suporta operação de Auto-negociação N-Way 100/10 Mb/s • Suporta capacidade de duplex pela metade/ou na totalidade • Suporta função LAN de Despertar e despertar remoto
• Transreceptor integrado 10/100/1000 • Suporta PCI v2.3, 32-bit, 33/66-MHz • Suporta na totalidade IEEE802.3, IEEE802.3u e IEEE802.3ab

Áudio

- Formato 24/20/16-bit PCM com suporte DAC de 8 canais para solução áudio 7.1
- Suporta taxa de amostragem DAC 192K/96K/48K/44.1KHz DAC
- Suporte de potência: Digital: 3.3V; Analógica: 3.5V~ 5.25V
- Cumpre com os requisitos áudio WHQL/WLP 2.x da Microsoft
- Compatível com Direct Sound 3D™
- Saída de codificador Dolby® Digital para aplicação electrónica de consumidor

Opções de Expansão

A motherboard é fornecida com as seguintes opções de expansão:

- Duas ranhuras PCI Express x16 (x16, x4) para Interface de Gráficos
- Duas ranhuras PCI Express x1
- Três ranhuras compatíveis com PCI v2.3 de 32 bits
- Uma cabeçalhos de baixo perfil IDE 40 pinos, que suportam dois dispositivos IDE
- Uma interface para unidade de disquete
- Cinco conectores SATA de 7 pinos

A motherboard suporta um domínio bus UltraDMA bus com taxas de Transferência de 100/66 MB/s.

I/O Integrado

A motherboard possui um conjunto completo de portas I/O e conectores:

- Duas portas PS/2 para o rato e o teclado
- Uma porta de série
- Uma porta paralela
- Quatro portas USB 2.0/1.1
- Uma porta LAN (opcional)
- Fichas áudio para microfone, alinhadas e com Áudio de Elevada Definição 8-ch

Firmware do BIOS

A motherboard usa o Award BIOS que permite aos usuários configurar vários recusos do sistema, como:

- Gerenciamento de energia
- Alarmes de reativação
- Parâmetros da CPU
- Sincronização da CPU e memória

O firmware também pode ser usado para definir os parâmetros de diferentes velocidades de clock do processador.

Alguns itens de software e especificação de hardware estão sujeitos a alterações sem prévio aviso.

Multi-Language Translation

機能

プロセッサ

本マザーボードは LGA775タイプのIntel Core™2 Extreme/ Core™2 Duo/Pentium 4/ Celeron D/ Pentium Dを利用するもので、下記の特徴を持っています：

- Intel Core™ 2 Extreme/ Core™ 2 Duo/ Pentium 4/ Celeron D/Pentium D プロセッサの搭載が可能
- 1066/800/533MHzのシステムバス(FSB)をサポート
- “ハイパースレッド技術対応のCPUを取り付け可能

ハイパースレッド(HT) 技術というのは、オペレーションシステムに2つのプロセッサが存在すると認識させることで、実際には2つのスレッドを1つのプロセッサで同時に執行させ、平行利用を可能とする技術です。

チップセット

P965 Northbridge (NB)とICH8 Southbridge (SB)チップセットは、実証された信頼性と性能を持つ革新的で拡張性のあるアーキテクチャに基づいています。

P965(NB)

- 36ビットホストバスアドレシング機能対応、これでCPUが64 GBのメモリアドレス空間すべてをアクセス可能
- 2 GB/秒 point-to-point Direct Media Interface (DMI) で ICH8とのデータやり取りを1 GB/秒の転送率で実現
- 1つのグラフィック専用の16レイン PCI Expressポートをサポート、PCI Express Base Specification revision 1.1規格に完全対応
- 800/667/533 MHz周波数の DDR2 メモリDIMMをサポート
- 8倍速または16倍速のデバイスの256-Mbや512-Mb、1-Gbの技術に対応

ICH8(SB)

- 強化型ＤＭＡコントローラ、中断コントローラ、およびHPET(High Precision Event timer)機能に対応
- PCI Express Base Specification v1.1に対応
- 33MHzでのPCI 2.3規格に準拠
- シリアルATA II 仕様に準拠
- 統合型USB 2.0ホストコントローラで、最大10つまでのUSB 2.0 ポートを対応可能
- IntelのAMT(Active Management Technology)に対応
- IntelのMST(Matrix Storage Technology)に対応

メモリ

- DDR2 800/667/533 DDR2 SDRAM に対応し、デュアルチャネル DDR2 構成を実現
- 4つの非バッファーDIMMで、最大8 GBまでのメモリ容量をサポート

Multi-Language Translation

オンボードLAN（オプション）

当マザーボードは次のLANチップセットのいずれかを搭載しております：

• 100/10 Mb/s N-way自動ネゴシエーション操作をサポート • 半/全二重の機能をサポート • Wake-On-LANと遠隔wake-up機能をサポート
• 10/100/1000 トランシーバーを搭載済み • PCI v2.3, 32-bit, 33/66-MHzへの対応 • IEEE802.3、IEEE802.3u、およびIEEE802.3abに完全対応

オーディオ

- 8チャネルのDACで、7.1オーディオソリューションの24/20/16-bit PCM形式をサポート
- 192K/96K/48K/44.1KHz DAC サンプリング率をサポート
- 電源サポート：3.3V（デジタル方式の場合）、3.5V～5.25V（アナログ方式の場合）
- Microsoft WHQL/WLP 2.x オーディオ基準に準拠
- Direct Sound 3D™ に対応
- Dolby® Digital Encoder出力で、家庭用電子製品への対応を可能に

拡張オプション

本マザーボードでは、次の拡張機能が利用できます。

- グラフィック専用のPCI Express x16 スロット（各々x16, x4）が2つ
- PCI Express x1 スロットが2つ
- 32ビットPCI v2.3 互換性スロットが3つ
- 40ピンIDEロープロフィルヘッダー（2つのIDEチャネルをサポート）が1つ
- フロッピーディスク ドライブ インターフェイス が1つ
- 7ピンSATAコネクタ が5つ

このマザーボードは、100/66 MB/秒の転送速度でのUltra DMAバスマスタリングをサポートします。

統合I/O

マザーボードには、次のI/Oポートやコネクタを揃えています。

- マウスとキーボード用のPS/2ポート が2つ
- シリアルポート が1つ
- パラレルポート が1つ
- USB 2.0/1.1ポート が4つ
- LANポート が1つ（オプション）
- さらに、マイクロホン入力と、ライン入力と、8チャネル高品位オーディオ出力とを搭載。

BIOSファームウェア

本マザーボードは Award BIOSを採用し、次の機能を含めた多様なシステム構成を行えます。

- 電源管理
- ウェークアップアラーム
- CPUパラメータ
- CPUおよびメモリのタイミング

さらに、所定のパラメータを設定することによって、プロセッサのクロック速度を変更することもできます。

一部のハードウェア仕様とソフトウェアアイテムは、予告なしに変更することがあります。

Multi-Language Translation

특징

프로세서

본 마더보드는 인텔 코어™2 익스트림/ 코어™2 듀오/팬티엄 4/ 셀러론 D/ 팬티엄 D의 LGA775 타입을 사용하였으며 다음과 같은 특성을 지닌다.

- 인텔 코어™ 2 익스트림/ 코어™ 2 듀오/ 팬티엄 4/ 셀러론 D/팬티엄 D 프로세서 탑재
- 1066/800/533 MHz시스템 버스(FSB) 지원
- ” Hyper-Threading” 기술 CPU 지원

” Hyper-Threading” 기술은 운영체제를 두 개의 프로세서에 연결한 것처럼 두개의 트래드를 패러럴로 실행하여 같은 물리적 프로세서 안에서 각기 다른 논리적 프로세서를 실행할 수 있게 한다.

칩셋

P965 Northbridge (NB) 와 ICH8 Southbridge (SB) 칩셋은혁 신적이고 범위성을 지닌 아키텍쳐를 바탕으로 인정된 신뢰성과 성능을 지닌다.

P965 (NB)

- 36 비트 호스트 버스 어드레싱 지원으로, CPU 가 총 64 GB 메모리 어드레스 공간에 액세스할 수 있다.
- ICH8 (1 GB/s).에 각 방향으로 2 GB/s point-to-point Direct Media Interface (DMI)
- Graphics Attach를 위한 1 개의 16-lane PCI Express 포트 지원, PCI Express Base 1.1 사양 호환
- DDR2 메모리, DIMM 주파수 800/667/533 MHz 지원.
- x8 및 x16 장치를 위해 256-Mb, 512-Mb, 1-Gb 기술 지원.

ICH8 (SB)

- Enhanced DMA 컨트롤러, 인터럽트 컨트롤러, 고정밀 이벤트 타이머 기능
- PCI Express Base v1.1 사양 호환
- 33 MHz에서 PCI 2.3 사양 호환
- 시리얼 ATA II 사양 호환
- AC'97 부합/10 채널 오디오 출력을 지원하는 인텔 HD 오디오 코덱
- 인텔 액티브 매니지먼트 기술 지원
- 인텔 매트릭스 스토리지 기술 지원

메모리

- 듀얼 채널 DDR2 아키텍처를 지닌 DDR2 800/667/533 DDR2 SDRAM
- 4 개의 unbuffered DIMM 사용, 최대 메모리 크기 8 GB

보드 내장 LAN (선택 사항)

본 마더보드는 다음과 같은 LAN 칩셋을 지원합니다:

• 100/10 Mb/s N-Way Auto-negotiation 작업 지원 • Half/full 듀플렉스 지원 • Wake-On-LAN 기능 및 원격 wake-up 지원
• 통합 10/100/1000 트랜시버 • PCI v2.3, 32-bit, 33/66-MHz 지원 • IEEE802.3, IEEE802.3u 및 IEEE802.3ab 지원

Multi-Language Translation

오디오

- 8 채널 DAC, 7.1 오디오 솔루션을 위해 24/20/16 비트 PCM 포맷 지원
- 192K/96K/48K/44.1KHz DAC 샘플 속도 지원
- 전원 지원: 디지털: 3.3V; 아날로그: 3.5V~5.25V
- Microsoft WHQL/WLP 2.x 오디오 요구 조건에 부합
- Direct Sound 3D™ 호환
- 일반 전자 제품을 위한 돌비® 디지털 인코더 출력

확장 옵션

이 메인보드는 다음과 같은 확장 옵션이 있다

- 그래픽 인터페이스 용 PCI Express x16 슬롯 2 개 (x16, x4)
- PCI Express 1 개 x 슬롯 2 개
- 32 비트 PCI v2.3 호환 슬롯 3 개
- 2 개의 IDE 채널을 지원하는 40핀 IDE 로우 프로파일 해더 1 개
- 플로피 디스크 드라이브 인터페이스 1 개
- 7 핀 SATA 커넥터 5개

마더보드는 전송 속도 100/66 MB/s의 UltraDMA 버스 마스터링을 지원한다.

통합 I/O

이 메인보드에는 풀 세트의 I/O 포트와 커넥터가 있다

- 마우스와 키보드용 PS/2 포트 2 개
- 시리얼 포트1개
- 패러럴 포트 1 개
- USB 2.0/1.1 포트 4 개
- LAN 포트 1 개 (선택 사항)
- 마이크 폰 입력, 라인 입력 및 8 채널 고 재생음 오디오를 위한 오디오 잭

BIOS 펌웨어

본 메인보드는 Award BIOS 를 사용하여 사용자는 다음과 같은 시스템 기능을 구성할 수 있다

- 전원 관리
- Wake-up 알람
- CPU 파라미터
- CPU 및 메모리 타이밍

펌웨어는 다른 프로세서의 클럭 속도를 설정하는 데도 사용될 수 있다

하드웨어 사양 및 소프트웨어 아이템은 사전 통보없이 변경될 수 있습니다

Multi-Language Translation

功能

處理器

本主機板可安裝一個 LGA775型式之Intel Core™2 Extreme/ Core™2 Duo/Pentium 4/ Celeron D/ Pentium D，並具有如下特色：

- 支援 Intel Core™ 2 Extreme/ Core™ 2 Duo/ Pentium 4/ Celeron D/Pentium D 處理器
- 支援高達 1066/800/533MHz之系統匯流排(FSB)
- 支援使用超執行緒(Hyper-Threading)技術之CPU

利用“超執行緒(HT)”技術，可使作業系統在相當於裝上了兩具處理器的狀態下運作：利用一個”實體”處理器模擬出兩個獨立的”邏輯”處理器，同時執行兩個工作緒。

晶片組

P965北橋(NB)及ICH8南橋(SB)晶片組在研發設計上採用了創新且具擴充性之架構，具備優良的可靠性及性能。

P965 (NB)

- 支援36位元主事匯流排定址，藉此CPU 存取整個 64 GB的記憶位址空間
- 提供對ICH8的2 GB/秒點對點Direct Media Interface (DMI)，雙向1 GB/秒
- 支援一個 繪圖專用的16通道 PCI Express埠，完全符合 PCI Express Base Specification revision 1.1規格
- 支援 800/667/533 MHz頻率的 DDR2 記憶體DIMM
- 支援8倍速及16倍速之256-Mb、512-Mb、及1-Gb 技術

ICH8 (SB)

- 增強型DMA 控制器、中斷控制器、及HPET(High Precision Event timer)諸項功能
- 相容於PCI Express Base Specification , v1.1
- 相容於 33 MHz的PCI v2.3 規格
- 符合序列 ATA II 規格
- 內建式 USB 2.0主控，可支援 10 USB 2.0埠
- 支援 Intel的主動式管理技術(Active Management Technology)
- 支援Intel的矩陣式儲存技術(Matrix Storage Technology)

記憶體

- 支援DDR2 800/667/533 DDR2 SDRAM，提供雙通道DDR2 架構
- 配備4個非緩衝DIMM，藉此最大共可安裝高達 8 GB之記憶體

內建區域網路 (選購)

本主機板搭載有如下其中一種LAN晶片組：

• 支援 100/10 Mb/s N-way 自動協調作業 • 支援半/全雙工功能 • 支援區域網路喚醒(Wake-On-LAN)及遠端喚醒功能
• 整合有10/100/1000 收發器 • 支援PCI v2.3, 32位元, 33/66-MHz • 完全支援IEEE802.3、IEEE802.3u 及IEEE802.3ab

Multi-Language Translation

音效

- 配備8通道之DAC，可支援 7.1音訊解決方案之24/20/16-bit PCM 格式
- 支援 192K/96K/48K/44.1KHz DAC 取樣率
- 電源支援： 3.3V(數位)、3.5V~5.25V(類比)
- 符合Microsoft WHQL/WLP 2.x 音訊規格
- Direct Sound 3D™ 相容
- 配備Dolby® Digital Encoder 輸出端子，可用來連接家用電子產品

擴充選項

本主機板包括下列擴充選項：

- 2個繪圖介面用的PCI Express x16 插槽 (x16, x4)
- 2個PCI Express x1 插槽
- 3個32位元PCIv2.3插槽
- 1個40針IDE短接頭(支援2個IDE裝置)
- 1個軟碟機介面
- 5個7針SATA插頭

本主機板支援傳輸率100/66 MB/秒下的Ultra DMA 匯流排主控功能。

整合 I/O

主機板具有一組齊全的 I/O 連接埠及連接頭：

- 2 個 PS/2 埠，供滑鼠與鍵盤使用
- 1 個串列埠
- 1 個平行埠
- 4 個USB 2.0/1.1埠
- 1 個區域網路埠(選購)
- 具有麥克風輸入端子、線性輸入端子、及 8聲道高傳眞音效(High Definition Audio)輸出端子

BIOS 韌體

本主機板使用Award BIOS，使用者可以組態設定許多系統功能，包括如下：

- 電源管理
- 喚醒警鈴
- CPU參數
- CPU及記憶體的時脈定時

此外，也可藉由參數的設定，調整處理器的時脈速度。

部份硬體規格和軟體內容可能會在未經通知的情況下更動，敬請見諒。

功能

处理器

此主板使用 LGA775 型 Intel Core™2 Extreme/ Core™2 Duo/Pentium 4/ Celeron D/ Pentium D 处理器，具有以下特点：

- 支持 Intel Core™ 2 Extreme/ Core™ 2 Duo/ Pentium 4/ Celeron D/Pentium D 处理器
- 支持 1066/800/533 MHz 系统总线 (FSB)
- 支持“多线程”技术 CPU

“多线程”技术可以让操作系统认为自己连接了两个处理器，允许两个线程并行运行，每个线程位于同一处理器中的单独“逻辑”处理器中。

芯片组

P965北桥 (NB) 和 ICH8 南桥 (SB) 芯片组是基于一种新型的、可扩展的架构，能提供已经证明的可靠性和高性能。

P965 (NB)

- 支持 36 位主机总线寻址，允许 CPU 访问 64 GB 的完整内存地址空间
- 每个方向 2 GB/s 点到点直接媒体接口 (DMI) 到 ICH8 (1 GB/s)
- 支持 1 个 16-lane PCI Express端口用于Graphics Attach，完全兼容 PCI Express Base Specification 修订版 1.1
- 支持 800/667/533 MHz 的 DDR2 DIMM 内存
- 支持用于 x8 和 x16 设备的 256-Mb、512-Mb 和 1-Gb 技术

ICH8 (SB)

- 增强 DMA 控制器、中断控制器和高精度事件定时器功能
- 符合 PCI Express Base Specification，v1.1 规格
- 符合 33 MHz 下的 PCI 2.3 规格
- 符合串行 ATA II 规格
- 集成 USB 2.0 主控器，最多支持 10 个 USB 2.0 端口
- 支持 Intel 主动管理技术
- 支持 Intel 矩阵储存技术

内存

- DDR2 800/667/533 DDR2 SDRAM，双通道 DDR2 架构
- 支持 4 个非缓冲 DIMM，内存最大支持 8 GB

Onboard LAN（可选）

此主板支持以下任何一种 LAN 芯片组：

• 支持 100/10 Mb/s N 路自协商工作 • 支持半双工/全双工工作 • 支持 LAN 唤醒功能和远程唤醒功能
• 集成 10/100/1000 收发器 • 支持 PCI v2.3，32-位，33/66-MHz • 完全支持 IEEE 802.3、IEEE802.3u 和 IEEE802.3ab

Multi-Language Translation

音频

- 8 通道 DAC，支持 24/20/16 位 PCM 格式用于 7.1 音频解决方案
- 支持 192K/96K/48K/44.1KHz DAC 采样速率
- 电源支持： 数字亮：3.3V；模拟量：3.5V~5.25V
- 符合 Microsoft WHQL/WLP 2.x 音频要求
- 符合 Direct Sound 3D™ 规格
- 用于消费类电子应用的杜比® 数字编码器

扩展选项

此主板提供如下扩展选项：

- 2 个用于图形接口的 PCI Express x 16插槽 (x16, x4)
- 2 个 PCI Express x1 插槽
- 3 个 32 位 PCI 扩展插槽
- 1 个 40-pin IDE 紧凑型接口，支持 2 个 IDE 通道
- 1 个软驱接口
- 5 个 7-pin SATA 接口

此主板支持 Ultra DMA 总线控制，传输速率可达 100/66 MB/sec。

集成 I/O

此主板具有完整的 I/O 端口和插孔：

- 2 个用于连接鼠标和键盘的 PS/2 端口
- 1 个串口
- 1 个并口
- 4 个 USB 2.0/1.1 端口
- 1 个 LAN 端口（可选）
- 用于麦克风、线入和 8 声道高清晰度音频的音频插孔

BIOS

此主板使用 Award BIOS，可以让用户自己配置以下系统功能：

- 电源管理
- 唤醒报警
- CPU 参数
- CPU 和记忆定时

还可用于设置不同处理器时钟速度的参数。

某些硬件规格和软件项目若有更改恕不另行通知。

Характеристики

Процессор

Материнская плата построена для процессоров типа LGA775 Intel Core™2 Extreme/ Core™2 Duo/Pentium 4/ Celeron D/ Pentium D и обладает следующими свойствами:

- Размещает процессоры Intel Core™ 2 Extreme/ Core™ 2 Duo/ Pentium 4/ Celeron D/Pentium D
- Поддерживает системные шины (FSB) с частотой 1066/800/533MHz
- Поддерживает технологию CPU “Hyper-Threading”

Технология “Hyper-Threading” «убеждает» операционную систему в том, что в машине имеется два процессора; это позволяет параллельно обслуживать два процесса, причем каждый из процессов обслуживается отдельным «логическим» процессором в пределах одного физического процессора.

Чипсет

Чипсеты P965 «Северный мост» (Northbridge, NB) и ICH8 «Южный мост» (Southbridge, SB) построены с использованием инновационной масштабируемой архитектуры, обеспечивающей высокую надежность и производительность.

P965 (NB)

- Поддерживает 36-битную адресацию хоста, обеспечивая для CPU адресацию памяти объемом 64 ГБ.
- Интерфейс передачи данных Direct Media point-to-point со скоростью 2 ГБ/с (DMI) к ICH8 (1 ГБ/с) в каждом направлении.
- Поддерживает один 16-дорожечный порт PCI Express для графических карт, полностью совместим с PCI Express в спецификации 1.1
- Поддерживает память DDR2 DIMM 800/667/533 MHz.
- Поддерживает технологии 256-Мб, 512-Мб и 1-Гб для устройств x8 и x16

ICH8 (SB)

- Расширенные контроллеры DMA, прерываний, а также высоко точный таймер
- Совместимость с PCI Express в спецификации 1.1
- Совместима со спецификацией PCI 2.3 33 MHz
- Совместимость с Serial ATA II
- Встроенный контроллер хоста USB 2.0 с поддержкой до десяtь портов USB 2.0
- Поддерживает технологию Intel Active Management
- Поддерживает технологию Intel Matrix Storage

Память

- DDR2 800/667/533 DDR2 SDRAM с двухканальной архитектурой DDR2
- Размещает четыре модуля небуферируемой памяти DIMM при максимальном объеме памяти до 8 ГБ

Multi-Language Translation

Встроенный сетевой адаптер LAN (опционально)

Встроенный сетевой адаптер LAN обладает следующими характеристиками:

- Поддерживает автоматическое определение скорости и режима соединения 100/10 Mb/s
- Поддержка режимов Half и Full Duplex
- Поддерживает функции Wake-On-LAN и remote wake-up

- Интегрированный трансивер 10/100/1000
- Поддержка PCI v2.3, 32-бит, 33/66-МГц
- Поддерживает IEEE802.3, IEEE802.3u и IEEE802.3ab

Аудио

- Поддерживает 8-канальный DAC в 24/20/16-битном PCM формате для аудио вер. 7.1
- Поддерживает частоту сэмплирования DAC 192K/96K/48K/44.1 КГц
- Электропитание: цифровой режим: 3.3V; аналоговый режим: 3.5V~5.25V
- Соответствует требованиям Microsoft WHQL/WLP 2.x аудио
- Совместимость с Direct Sound 3D™
- Выход Dolby® Digital Encoder для применения в бытовой электронике

Возможности расширения

Существуют следующие опции расширения данной материнской платы:

- Два слота PCI Express x16 (x16, x4) для графического интерфейса
- Два слота PCI Express x1
- Три 32-битных слота PCI v2.3
- Один низкопрофильный 40-штырьковый слот IDE, обеспечивающий поддержку двух устройств IDE
- Один разъем для накопителя на гибких дисках
- Пять 7-штырьковых разъема SATA

Плата поддерживает технологию захвата управления шиной UltraDMA bus mastering со скоростью передачи данных 100/66 МБ/сек.

Русский

Интегрированный вход/выход

Плата снабжена полным набором портов входа/выхода и разъемов:

- Два порта PS/2 для подключения мыши и клавиатуры
- Один серийный порт
- Один параллельный порт
- Четыре порта USB 2.0/1.1
- Один порт LAN (опционально)
- Гнездо для подключения микрофона, гнездо аудио-входа и 8-канального аудиовыхода

BIOS

Плата работает под Award BIOS, который позволяет пользователю конфигурировать различные характеристики системы:

- Управление питанием
- Сигналы пробуждения системы
- Параметры CPU
- Время доступа для CPU и памяти

BIOS допускает также установку параметров для различных частот процессора.

Некоторые параметры платы и характеристики ее программного обеспечения могут быть изменены без предварительного уведомления.

Multi-Language Translation

Cechy

Procesor

Płyta główna posiada podstawkę typu LGA775, która jest przystosowana do obsługi procesorów Intel Core™2 Extreme/ Core™2 Duo/Pentium 4/ Celeron D/ Pentium D i posiada następujące właściwości:

- Dostosowana do procesorów: Intel Core™ 2 Extreme/ Core™ 2 Duo/ Pentium 4/ Celeron D/Pentium D
- Obsługuje szynę systemowa (FSB) 1066/800/533MHz
- Zabezpiecza technologię CPU “Hyper-Threading”

Technologia “Hyper-Threading” powoduje, że system "myśli”, że posiada dwa procesory i wykonuje równolegle dwa procesy; za wykonanie każdego procesu odpowiedzialny jest jeden z dwuch "logicznych" procesorów w ramach jednego fizycznego procesora

Chipset

Mostek północny (NB) P965 i mostek południowy (SB) ICH8 chipsetu oparty jest na nowatorskiej i skalowalnej architekturze o sprawdzonej niezawodności i funkcjonalnoœci.

P965 (NB)

- Obsługuje 36-bitowe adresowanie hosta pozwalając procesorowi zaadresować 64 GB pamięci
- Interfejs bezpośredniego połączenia (DMI) typu point-to-point 2 GB/s do ICH8 (1 GB/s) w każdym kierunku
- Obsługuje jedno x16 złącze planowane dla kart graficznych PCI Express całkowicie zgodnych z podstawową specyfikacją PCI Express w wersji 1.1.
- Obsługuje banki pamięci typu DDR2 DIMM o częstotliwościach 800/667/533 MHz.
- Obsługuje pamięci 256-Mb, 512-Mb i 1-Gb w technologii w urządzeniach x8 i x16

ICH8 (SB)

- Udoskonalone: kontroler DMA, kontroler przerwań oraz wysokiej dokładności funkcję zdarzeń czasowych.
- Zgodny z podstawową specyfikacją PCI Express w wersji 1.1
- Zgodny ze standardem PCI w wersji 2.3 o częstotliwości 33 MHz
- Zgodny ze standardem Serial ATA II
- Wbudowany kontroler hosta USB 2.0 obsługuje do dziesięć portów USB
- Obsługuje technologię Intel Active Management
- Obsługuje technologię Intel Matrix Storage

Pamięć

- DDR2 800/667/533 DDR2 SDRAM z architekturą dwukanałową DDR2
- Obsługuje cztery banki niebuforowanej pamięci DIMM o maksymalnej pojemności 8 GB

Multi-Language Translation

Zintegrowana obsługa sieci LAN (opcjonalnie)

Zintegrowana obsługa sieci LAN posiada następujące właściwości:

- Obsluguje N-drożne automatycznie ustalane operacje z szybkościami 100/10 Mb/s
- Zdolność Half/Full duplex
- Obsługuje funkcję Wake-On-LAN i zdalnie sterowane wake-up (uruchamianie komputera)

- Zintegrowany terminal nadawczo-odbiórczy 10/100/1000
- Obsluguje 32 bitowe PCI w wersji 2.3 o częstotliwościach 33/66-MHz
- Całkowicie zgodny z IEEE802.3, IEEE802.3u and IEEE802.3ab

Audio

- Obsługuje 8 kanałów DAC w formacie 24/20/16-bit PCM w standardzie audio 7.1
- Obsługuje częstotliwości próbkowania 192K/96K/48K/44.1KHz DAC
- Zasilacz obsługuje odbiorniki 3.3V cyfrowe i 3.5V~5.25V analogowe
- Zgodna ze specyfikacją Microsoft WHQL/WLP 2.x audio
- Zgodny z Direct Sound 3D™
- Wyjście Dolby® Digital Encoder dla zastosowań konsumenckich

Możliwości rozbudowy

Płyta główna wyposażona jest w następujące gniazda:

- Dwa gniazda PCI Express x16 (x16, x4) dla kontrolerów grafiki.
- Dwa gniazda PCI Express x1
- Trzy 32-bitowych gniazda zgodnych z PCI w wersji 2.3
- Jedno 40-nóżkowe złącze niskoprofilowe obsługujące dwa urządzenia IDE
- Jedno złącze obsługujące stacje dyskietek
- Pięć 7-nóżkowe złącza SATA

Płyta główna obsługuje szynę UltraDMA z szybkością transferu 100/66 MB/s.

Zintegrowane We/Wy

Płyta główna wyposażona jest w pełny zestaw gniazd i złączy We/Wy:

- Dwa gniazda PS/2 dla myszy i klawiatury
- Jedno gniazdo szeregowe
- Jedno gniazdo równoległe
- Cztery gniazda USB 2.0/1.1
- Jedno gniazdo LAN (opcjonalnie)
- Wejście mikrofonowe, wejście audio i 8-kanałowe wyjście High Definition Audio

Firmowy BIOS

Płyta główna wyposażona jest w BIOS firmy Award, który pozwala użytkownikowi konfigurować wiele cech systemu włączając w to następujące właściwości:

- Zarządzanie poborem mocy
- Alarmy typu Wake-up
- Parametry pracy procesora
- Ustalenia szybkoœci pracy procesora i pamiêci

BIOS może być używany do ustalania parametrów wpływających na szybkości pracy zegara procesora.

Niektóre parametry dotyczące płyty i jej oprogramowania mogą ulec zmianie bez uprzedniego powiadomienia.

Multi-Language Translation

Vlastnosti

Procesor

Základní deska používá patici typu LGA775 pro procesory Intel Core™2 Extreme/ Core™2 Duo/Pentium 4/ Celeron D/ Pentium D a vyznačuje se následujícími funkcemi:

- Určená pro procesory Intel Core™ 2 Extreme/ Core™ 2 Duo/ Pentium 4/ Celeron D/Pentium D
- Podporuje taktování systémové sběrnice (FSB) na frekvenci 1066/800/533 MHz
- Podporuje technologii CPU „Hyper-Threading“

Technologie „Hyper-Threading“ umožňuje operačnímu systému pracovat tak, jako by byl připojen ke dvěma procesorům, protože je možné pracovat se dvěma toky programového kódu (vlákny) paralelně najednou, přičemž jsou k dispozici samostatné „logické“ procesory umístěné v rámci jednoho fyzického procesoru.

Čipová sada

Čipy northbridge (NB) P965 a southbridge (SB) ICH8 jsou založeny na inovativní a škálovatelné architektuře s ověřenou spolehlivostí a výkonností.

P965 (NB)

- Podporuje 36bitové adresování, umožòující CPU pøistupovat k celému adresovému prostoru pamìti 64 GB.
- 2 GB/s přímé rozhraní DMI (Direct Media Interface) pro ICH8 (1 GB/s) v obou směrech.
- Podporuje jeden port se 16 kanály PCI Express, určený pro připojení grafické karty, plně kompatibilní se specifikací PCI Express verze 1.1
- Podporuje paměť DDR2 DIMM s frekvencemi 800/667/533 MHz
- Podpora 256 MB, 512 MB a 1 Gb technologií pro zařízení x8 a x16

ICH8 (SB)

- Vylepšený řadič DMA, řadič přerušení a funkce vysoce přesného časovače
- Shoda se specifikací PCI Express Base, verze 1.1
- Splňuje specifikace standardu PCI 2.3 s frekvencí 33 MHz
- Splňuje požadavky standardu Serial ATA II
- Integrované hostitelské řadiče USB 2.0 podporující až deset portů
- Podpora technologie Intel Active Management
- Podpora technologie Intel Matrix Storage

Paměť

- Paměti DDR2 800/667/533 DDR2 SDRAM s dvoukanálovou architekturou DDR2
- Podpora čtyři modulů DIMM bez vyrovnávací paměti s maximální kapacitou 8 GB

Multi-Language Translation

Vestavění síťové rozhraní LAN (volitelně)

Vestavěné síťové rozhraní LAN nabízí následující možnosti:

- Podpora 100/10 Mb/s N–cestného automatického přepínání provozu
- Poloviční a plný duplex
- Podpora funkce Wake–On–LAN a aktivace na dálku

- Integrovaný transceiver 10/100/1000
- Podpora rozhraní PCI v2.3, 32bitové, 33/66 MHz
- Plná podpora IEEE802.3, IEEE802.3u a IEEE802.3ab

Zvuk

- 8 kanálů převodníku DAC podporuje 24/20/16bitový formát PCM pro zvukový výstup 7.1
- Podpora vzorkovací frekvence převodníku DAC 192k/96k/48k/44,1kHz
- Podpora napájení: Digitální: 3,3 V; Analogové: 3,5 V ~ 5,25 V
- Splňuje požadavky na audio zařízení Microsoft WHQL/WLP 2.x
- Kompatibilita s Direct Sound 3D™
- Výstup digitálního enkodéru Dolby® pro použití s elektronickými zařízeními uživatele

Možnosti rozšíření

Základní deska je dodávána s následujícími možnostmi rozšíření

- Dva porty PCI Express x16 (x16, x4) pro grafickou kartu
- Dva porty PCI Express x1
- Tři 32bitové patice PCI v2.3
- Jeden nízkoprofilový 40kolíkový konektor IDE podporující připojení dvou zařízení standardu IDE
- Jedno rozhraní pro disketovou mechaniku
- Pět 7kolíkové konektory SATA

Základní deska podporuje sběrnici Ultra DMA s přenosovými rychlostmi 100/66 MB/s.

Integrovaný vstup/výstup

Základní deska je vybavena kompletní sadou vstupních portů a konektorů I/O:

- Dva porty PS/2 pro myš a klávesnici
- Jeden sériový port
- Jeden paralelní port
- Čtyři porty USB 2.0/1.1
- Jeden port LAN (volitelně)
- Zvukové konektory pro mikrofon, zvukový vstup a 8kanálový Hi-Fi zvukový výstup

Firmware BIOS

Základní deska využívá BIOS formy Award, který uživateli umožňuje nakonfigurovat mnoho systémových parametrů, včetně následujících:

- Řízení spotřeby
- Alarmy při spouštění systému
- Parametry CPU
- Časování CPU a paměti

Firmware může být rovněž použit k nastavení parametrů pro různé taktovací frekvence procesoru.

Některé technické parametry hardware a software se mohou měnit bez předchozího upozornění.

Multi-Language Translation

Caracteristici

Procesorul

Placa de bază utilizează Intel Core™2 Extreme/ Core™2 Duo/Pentium 4/ Celeron D/ Pentium D de tip LGA775 cu următoarele caracteristici:

- Acomodează procesoare Intel Core™ 2 Extreme/ Core™ 2 Duo/ Pentium 4/ Celeron D/Pentium D
- Funcționează cu bus sistem (FSB) de 1066/800/533 MHz
- Este compatibilă cu unități centrale dotate cu tehnologia „Hyper-Threading"

Tehnologia „Hyper-Threading" permite sistemului de operare să funcționeze ca şi cum ar exista două procesoare, putând fi rulate în paralel două fire, fiecare pe câte un procesor „logic" separat, aflate pe acelaşi procesor fizic.

Setul de chipuri

Seturile de chipuri P965 Northbridge (NB) şi ICH8 Southbridge (SB) se bazează pe o arhitectură inovatoare şi scalabilă, care s-a impus deja prin fiabilitate şi performanță.

P965 (NB)

- Sprijină adresarea host bus (bus gazdă) de 36 biți, permițând unității centrale să acceseze întreaga cantitate de memorie de 64 GB.
- Interfață Direct Media (DMI) punct la punct pe 2 GB/s pentru ICH8 (1 GB/s) în ambele direcții.
- Suport pentru un port PCI Express 16-lane pentru Graphic Attach, compatibil integral cu Specificația PCI Express Base Specification revision 1.1
- Suport pentru memorie DDR2 frecvențe DIMM de 800/667/533 MHz
- Este compatibil cu tehnologiile de 256-Mb, 512-Mb şi 1-Gb , pentru unități de viteza 8x sau 16x

ICH8 (SB)

- Controller DMA întărit, controller întrerupere, şi funcțiuni de înregistrare evenimente de înaltă precizie
- Compatibil cu Specificația PCI Express Base Specification v1.1
- Compatibil cu specificația PCI, versiunea 2.3 33 MHz
- Compatibil cu specificație Serial ATA II
- Controler gazdă USB 2.0 integrat, care suportă cel mult zece porturi USB 2.0
- Suport pentru tehnologie Intel Active Management Technology
- Suport pentru tehnologie stocare Intel Matrix Storage Technology

Memoria

- Module DDR2 SDRAM DDR2 800/667/533 cu arhitectură DDR2 cu canal dual
- Acomodează patru DIMM-uri netamponate (unbuffered), cu până la 8 GB mărime memorie maximă

Multi-Language Translation

Onboard LAN (opţional)

Onboard LAN are următoarele caracteristici:

• Suportă operații de autonegociere N-way de 100/10 Mb/s • Posibilitate semi-duplex şi duplex complet • Suportă funcția Wake-On-LAN şi trezirea de la distanță
• Unitate de emisie/recepție 10/100/1000 integrat • Suportă PCI, versiunea 2.3, de 32 biți, la 33/66 MHz • Compatibilitate deplină cu IEEE802.3, IEEE802.3u şi IEEE802.3ab

Audio

- Suport DAC 8 canale format PCM 24/20/16-bit pentru soluții audio 7.1
- Suport 192K/96K/48K/44.1KHz DAC sample rate
- Suport curent: Digital: 3.3V; Analog: 3.5V~5.25V
- Compatibilă cu specificațiile audio Microsoft WHQL/WLP 2.x
- Compatibil cu Direct Sound 3D™
- Ieşire Dolby® Digital Encoder pentru aplicațiile electronice ale clientului

Opţiuni de extindere

Placa de bază este dotată următoarele posibilități de extindere:

- Două sloturi PCI Express x16 (x16, x4) pentru interfață grafică
- Două sloturi PCI Express x1
- Trei sloturi de 32 biți compatibile PCI, versiunea 2.3
- O interfață IDE 40 cu profil plat care poate deservi două unități IDE
- O interfață pentru unitate floppy
- Cinci conectoare SATA 7

Placa de bază suportă bus mastering UltraDMA cu viteze de transfer de 100/66 MB/s

I/O integrată

Placa de bază este dotată cu un set complet de porturi şi conectoare I/O:

- Două porturi PS/2, pentru mouse şi tastatură
- Un port serial
- Un port paralel
- Patru porturi USB 2.0/1.1
- Un port LAN (opțional)
- Mufe audio pentru microfon, intrare audio şi pentru 8 canale audio de ieşire de înaltă fidelitate

Firmware BIOS

Placa de bază utilizează Award BIOS, care permite utilizatorului să configureze mai mulți parametri ai sistemului, cum ar fi:

- Gestionarea energiei
- Alarme de trezire
- Parametri CPU
- Temporizare CPU şi memorie

Acest firmware poate fi utilizat şi pentru a seta parametrii diferitelor frecvențe de comandă ale procesorului.

Anumite specificații hardware şi elemente de software pot fi modificate fără înştiințare prealabilă.

Multi-Language Translation

Спецификация

Процесор

Тази дънна платка използва сокет LGA775 за процесори Intel Core™2 Extreme/ Core™2 Duo/Pentium 4/ Celeron D/ Pentium D и поддържа следните спецификации:

- поддръжка на процесори Intel Core™ 2 Extreme/ Core™ 2 Duo/ Pentium 4/ Celeron D/Pentium D
- поддръжка на системна шина със скорост 1066/800/533MHz
- поддръжка на процесори с технология “Hyper-Threading"

Технологията “Hyper-Threading" позволява да се “излъже” операционната система, че работи на два процесора, което дава възможност за паралелното изпълнение на две задачи на два отделни “логически” процесора в един и същ физически процесор.

Чипсет

Чипсетът със северен мост P965 (NB) и южен мост ICH8 (SB) е изграден на базата на оригинална архитектура с възможност за надстройка с доказана надеждност и производителност.

P965 (NB)

- 36-bit адресация на шината, което позволява на процесора достъп към пълното адресно пространство на паметта 64GB.
- Директен медия интерфейс (DMI) 2 GB/s point-to-point към ICH8, (1 GB/s във всяка посока).
- един 16-канален порт PCI Express за графичен интерфейс, напълно съвместим с със спецификацията PCI Express Base 1.1
- поддръжка на модули памет DDR2 с честота 800/667/533 MHz.
- поддръжка на технологии 256-Mb, 512-Mb и 1-Gb за x8 и x16 устройства

ICH8 (SB)

- модерен DMA контролер, контролер на прекъсванията, таймер с функции High Precision Event
- съвместимост със спецификацията PCI Express Base 1.1
- Съвместимост със спецификацията PCI 2.3 при 33 MHz
- съвместимост със спецификацията Serial ATA II
- интегриран контролер USB 2.0 с поддръжка на до 10 порта USB 2.0
- поддръжка на технологията Intel Active Management
- поддръжка на технологията Intel Matrix Storage

Памет

- Дву-канална архитектура на паметта DDR2 800/667/533 DDR2 SDRAM
- Поддръжка на четири небуферирани модула памет с общ максимален капацитет до 8 GB

Multi-Language Translation

Интегриран мрежов контролер (опция)

Спецификация на интегрирания мрежов контролер:

• Поддръжка на режими: 100/10 Mb/s с функция за определяне оптималната скорост на трансфер (N-Way Auto-negotiation). • Режим: Half/Full duplex • поддръжка на функция за “събуждане” Wake-On-LAN и дистанционен wake-up
• Интегриран 10/100/1000 контролер • поддръжка на PCI v2.3, 32-bit, 33/66-MHz • Пълна поддръжка на стандартите IEEE802.3, IEEE802.3u и IEEE802.3ab

Аудио

- 8-канален цифрово-аналогов преобразовател с поддръжка на 24/20/16-bit PCM формат за 7.1 канален звук.
- Поддръжка на честота 192K/96K/48K/44.1KHz
- Захранване: цифрово: 3.3V; аналогово: 3.5V~5.25V
- аудио - съвместимо с спецификацията Microsoft WHQL/WLP 2.x
- съвместимост с Direct Sound 3D™
- Изход с вграден Dolby® Digital Encoder за връзка с домашни аудио/видео уреди.

Възможности за разширяване

Дънната платка има следните разширителни възможности:

- Два слота PCI Express x16 (x16, x4) за графичен интерфейс
- Два слота PCI Express x1
- Три слота 32-bit PCI v2.3
- Един нископрофилен 40-pin IDE колектор с поддръжка на две IDE устройства
- един конектор за флопидисково устройство
- Пет 7-pin SATA конектора

Дънната платка поддържа шина UltraDMA 100/66 MB/s

Интегриран Вход/Изход контролер

Дънната платка има пълен набор от I/O портове и конектори:

- два PS/2 порта за мишка и клавиатура
- един сериен порт
- един паралелен порт
- четири USB 2.0/1.1 порта
- един LAN порт (опция)
- Аудио жак за микрофон (вход), линеен вход, линеен изход и изход за 8-канално High Definition аудио

BIOS Firmware

Дънната платка използва Award BIOS с възможност за различни системни настройки, включително

- управление на захранването
- Wake-up аларми
- параметри на процесора
- синхронизиране на процесора и паметта

настройка на скоростта на часовника на процесора

Хардуерните и софтуерни спецификации и параметри могат да бъдат изменени без предупреждение.

Multi-Language Translation

Jellemző

Processzor

Az alaplap LGA775 típusú Intel Core™2 Extreme/ Core™2 Duo/Pentium 4/ Celeron D/ Pentium D processzort használ, a következő tulajdonságokkal:

- Intel Core™ 2 Extreme/ Core™ 2 Duo/ Pentium 4/ Celeron D/Pentium D processzort akkomodál
- 1066/800/533 MHz sebességű rendszerbuszt (FSB) támogat
- Támogatja a „Hyper-Threading" technológiát használó központi egységeket

A „Hyper-Threading" technológia által az operációs rendszer úgy működik, mintha két processzorral rendelkezne, ami két szál párhuzamos futását teszi lehetővé két független, ugyanazon fizikai processzoron található „logikai" processzoron.

Lapkakészlet

A P965 Northbridge (NB) és ICH8 Southbridge (SB) lapkakészletek egy új és méretezhető, nagy megbízhatóságú és teljesítőképességű architektúrára épülnek.

P965 (NB)

- 36 bites host bus addressing-et (gazdabusz címzést) tesz lehetővé, ami által a központi egység a teljes 64 GB-os címzési tárhelyhez hozzáfér.
- 2 GB/s pontról-pontra adatátvitelű Direct Media interfész (DMI) az ICH8 (1 GB/s) számára mindkét irányban.
- Egy Graphic Attach-nek szánt 16-sávos PCI Express portot biztosít, amely teljes mértékben kompatibilis a PCI Express Base specifikáció 1.1-es revíziójával
- DDR2 memóriát támogat 800/667/533 MHz-ez DIMM frekvenciával
- 256 Mb-os, 512 Mb-os és 1 Gb-os technológiát támogat 8- és 16-szoros eszközök esetében

ICH8 (SB)

- Növelt DMA vezérlő, megszakítás-vezérlő, és nagy precizitású esemény-regiszter funkciók
- Megfelel a PCI Express Base specifikáció 1.1-es verziójának
- A PCI 2.3 specifikációval kompatibilis 33 MHz-en
- Kompatibilis a soros ATA II specifikációval
- Beépített USB 2.0 gazda vezérlő, legtöbb tíz USB 2.0 portot támogat
- Intel Aktív Menedzsment Technológiát biztosít
- Intel Mátrixtároló Technológiát biztosít

Memória

- DDR2 800/667/533 DDR2 SDRAM modulok kétcsatornás DDR2 kiépítésben
- Négy nem pufferelt, 8 GB maximális memória méretű DIMM beépítését teszi lehetővé

Multi-Language Translation

Alaplapon levő LAN (opcionális)

Az alaplapon levő LAN jellemzői:

• 100/10 Mb/s N-Way automatikus beállítással • Fél-/teljes duplex • Támogatja a Wake-On-LAN funkciót és a távoli ébresztést
• Integrált 10/100/1000 adó-vevő • Támogatja a 32 bites, 33/66 MHz-es PCI 2.3-as változatát • Teljesen megfelel az IEEE802.3, IEEE802.3u és IEEE802.3ab szabványoknak

Audio

- 8 csatornás DAC támogatás 24/20/16-bit PCM formátum 7.1 hangberendezésre
- 192K/96K/48K/44.1KHz DAC sample rate támogatással
- Áramellátás: Digitális: 3.3V; Analóg: 3.5V~5.25V
- Megfelel a Microsoft WHQL/WLP 2.x audio követelményeinek
- Kompatibilis a Direct Sound 3D™ technológiával
- Dolby® Digital Encoder digitális kóder kimenet a vevő elektromos alkalmazásaihoz

Bővítési lehetőségek

Az alaplap a következő bővítési lehetőségekkel rendelkezik:

- Két PCI Express x16 nyílás (x16, x4) grafikai interfésznek
- Két PCI Express x1nyílás
- Három 32 bites, a PCI 2.3-as változatával kompatibilis foglalat
- Egy 40 tűs lapos IDE foglalat, amely két IDE eszközt képes kiszolgálni
- Egy hajlékonylemez meghajtó interfész
- Öt 7 tűs SATA csatlakozó

A alaplap támogatja az UltraDMA bus mastering megoldást, 100/66 MB/s sebességen

Beépített I/O

Az alaplapot az I/O portok és csatlakozók teljes készletével szerelték fel:

- Két PS/2 port az egér és a billentyűzet számára
- Egy soros port
- Egy párhuzamos port
- Négy USB 2.0/1.1 port
- Egy LAN port (választható)
- Csatlakozók mikrofon bemenethez, audio bemenethez és 8 csatornás, nagy hűségű audio kimenethez

BIOS Firmware

Az alaplapon levő Award BIOS segítségével a felhasználó a rendszer sok paraméterét állíthatja be, például:

- Energiagazdálkodás
- Ébresztési riasztások
- CPU paraméterek
- CPU és memória időzítés

A firmware segítségével a processzor órajel-frekvenciáinak paramétereit is beállíthatják.

Bizonyos hardverjellemzők és szoftverelemek előzetes bejelentés nélkül módosulhatnak.

Multi-Language Translation